

Rev.  
3/83  
Nathaniel Hillyer Egleston (1822-1912)

Second Chief of USDA Division of Forestry (1883-1886)

Nathaniel Egleston was born into an old New England family at Hartford, Connecticut, on May 7, 1822, 11 weeks before Franklin Hough. A graduate of Yale Divinity School and a prominent Congregational minister, Egleston, as a resident of Williamstown in the Berkshire Mountains of Western Massachusetts, developed a strong interest in conserving forests. Upon the merger of the American Forestry Association and the American Forestry Congress at Montreal in 1882, Egleston was elected a vice-president of the combined organization, while the presidency went to his fellow Massachusetts native, U.S.

Commissioner of Agriculture George B. Loring. In May 1883 Loring appointed Egleston chief of his Division of Forestry. This action appears to have been an act of favoritism to a friend by which Loring demoted the energetic and prolific Franklin B. Hough, whom he disliked.

Conscientious and sincere in promoting forestry, Egleston composed a number of pamphlets and articles on the subject for such magazines as Harpers, Atlantic, and the New Englander. In his first annual report to Loring, he echoed Hough in saying that the Federal government should act to ensure that its extensive forestlands are properly cared for and used for the general welfare, and should establish forestry schools and forest experiment stations.

However, Egleston proved to be a weak administrator. Gifford Pinchot was merciless in his later evaluation of him, and Egleston was apparently not well regarded by Loring's successor as Commissioner of Agriculture, Norman J. Colman, who had been appointed by President Grover Cleveland. Colman did not ask Egleston for a program for his division, nor did Egleston offer one, and a year later Cleveland arranged for Bernhard E. Fernow's appointment as Chief.

Egleston appears to have been relieved rather than upset when he was replaced by the more qualified Fernow, and he remained with the Division for 12 more years, until Pinchot took over in 1898. He died in Jamaica Plain, Mass., on August 24, 1912, in his 91st year.

References: Harold K. Steen, The U.S. Forest Service: A History (1976), pp. 20-21. National Cyclopaedia of American Biography 13 (1906), pp. 340-41.

--Frank J. Harmon

Biographical Sketch of Dr. Nathaniel H. Egleston

by

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(1822-1912)

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Egleston was a prominent figure in his denomination and developed a special interest in conserving forests. He participated in the merger of the American Forestry Association and the American Forestry Congress at Montreal in 1882, at which Loring was elected president and Egleston vice-president. Loring had been president of the Massachusetts State Board of Agriculture, and Egleston was then living in Williamstown, Mass. Both Franklin B. Hough of New York State, who preceded Egleston as Chief, and Bernhard E. Fernow, who succeeded him, also participated in the two organizations and the merger.

Egleston was conscientious and sincere in promoting forestry, and composed a number of well-written articles and pamphlets on the subject. In his first annual report to Loring, he said that the extensive forest lands owned by the Federal Government were so valuable that action should be taken to make sure that they were properly cared for and used for the general welfare. He also recommended that the Federal Government establish forest schools and forest experiment stations.

Gifford

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References: Samuel T. Dana, Forest and Range Policy: Its Development in the United States, (New York: McGraw-Hill, 1956), pp. 83-84.

Harold K. Steen, The U.S. Forest Service: A History (Seattle: University of Washington Press, 1976), pp. 20, 21.

Andrew D. Rodgers III, Bernhard Eduard Fernow: A Study of North American Forestry (Princeton, N.J.: Princeton University Press, 1951), passim.

The National Cyclopaedia of American Biography (New York: J.T. White & Co., 1906), pp. 340, 341.

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References: Samuel T. Dana, Forest and Range Policy: Its Development in the United States, Chapter 4, pp. 83, 84. (New York: McGraw-Hill, 1956), ↑

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(Princeton, N.J.: Princeton University Press, 1951), <sup>passim.</sup> ~~passim.~~

The National Cyclopaedia of American Biography, ~~1906~~ <sup>pp. 340, 341.</sup>  
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**Nathaniel Hillyer Egleston  
(1822-)**

**Number of Source Citations:1**

The National Cyclopaedia of American Biography. Volume 13. New York: James T. White & Co., 1906. Use the Index to locate biographies. [NatCAB 13]

**Source Citation:** Biography and Genealogy Master Index. Farmington Hills, Mich.: Gale, Cengage Learning. 1980- 2010.



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uated A.B. in 1875, and A.M. in 1876. In the fall of 1875 he was appointed adjunct professor of ancient languages in Bethany College, and after one year's work in that capacity was made financial agent of the institution. In 1877, he resigned to become president of the Kentucky Classical and Business College, North Middletown. He was here seven years. After a pastorate of three years at Springfield, Ill., he accepted a call to the presidency of Hiram College in 1888. During a service of fourteen years, the attendance was largely increased, the classical, philosophical, and scientific courses were strengthened, and new courses were added for those who might desire to prepare for the ministry. The material equipment was also enlarged, and nearly half a million dollars for buildings and endowments were secured through his personal efforts. In June, 1902, he resigned, to become president of the Texas Christian University, Waco. This institution was formerly known as the Add-Ran Christian University, and until 1895 was located at Thorp Springs, Texas. The town of Waco offered a much more extensive property as an inducement to removal, and on Christmas Day, 1895, the institution was transferred, regular college work being begun after the holidays. Many well-meaning church people took offence at the move, and the institution suffered a loss of patronage for several years. In 1899, every member of the old faculty resigned except the president and treasurer, and in June, 1900, Pres. Addison Clark resigned. Sale for debt was narrowly averted by the president of the board of trustees, T. E. Shirley, who, by hard work, succeeded in paying the debt and building a new dormitory. In 1902 Townsend Music Hall was erected, a complete steam-heating plant installed, and the main building remodeled, under the supervision of Pres. Zollars. He is the author of: "A Bible Geography" (1894); "The Holy Book and Sacred Day" (1895); "The Great Salvation" (1895) and "Hebrew Prophecy" (1902); "The King of Kings" (1905), and "The Word of Truth" (1905). The degree of LL.D. was conferred upon him by Hiram College in 1892. In 1865, he was married to Hulda L., daughter of Dudley McAtee, and has one child Mrs. H. M. Page.

**HOUGH, Franklin Benjamin**, author, was born at Martinsburg, N. Y., July 20, 1822, son of Dr. Horatio Hough, who emigrated from Southwick, Mass., in 1797, and was the first physician in Lewis county, N. Y. He was graduated at Union College in 1843, and at the Cleveland Medical College in 1848. He entered upon the practice of medicine at Somerville, N. Y., in 1852 and removed to Albany, N. Y., where he resided eight years. He was a surgeon in the U. S. volunteers during 1862, after which he resided in Lowville, Lewis co., N. Y., occupied chiefly in scientific and literary pursuits. He was chief of the division of forestry, department of agriculture during 1876-83. He was an earnest and indefatigable student of the history of the state of New York, and an authority on antiquities and statistics. His works were mainly on historical subjects, though he prepared several volumes of statistics of an official nature. He prepared and published the State Census of 1855 and of 1865, on both occasions writing the pamphlet of instructions by order of the legislature. He also edited and annotated and in many cases made important additions to a large list of important works, and he published a "Gazetteer of New York," which was

prepared entirely under his supervision. The following are his more important publications: "A Catalogue of Plants Growing without Cultivation in Lewis Co., N. Y." (1847); "A History of St. Lawrence and Franklin Counties, N. Y." (1853); "A History of Jefferson County, N. Y." (1854); "Results of a Series of Meteorological Observations, made in Obedience to the Instructions of the Regents of the University at Sundry Academies in the State of New York from 1828 to 1850"; "Papers Relating to the Island of Nantucket" (1856); "Proclamations for Thanksgiving by the Continental Congress, Washington, and others, with Historical Introduction" (1858); "Munsell's Guide to the Hudson River," (1859); "Papers Concerning the Attack upon Hatfield and Deerfield, by a Party of Indians from Canada, Sept. 19, 1677" (1859); "History of Lewis County, in the State of New York" (1860); "The Comprehensive Farm Record, with Directions for its Use" (1860); edited: "Diary of the Siege of Detroit in the War with Pontiac"; also, "A Narrative of the Principal Events of the Siege, by Major Robert Rogers" (1860); An Annotated Translation of Rauden's "Guerre de Crimée" (1862); "Proceedings of the Commissioners of Indian Affairs for the Extinguishment of Indian Titles in the State of New York" (1863); "History of Duryée's Brigade during the Campaign in Virginia under Gen. Pope, and in Maryland under Gen. McClellan, 1862" (1864); "Washingtoniana: or, Memorials of the Death of George Washington" (1865); "The Siege of Savannah by the American and French Forces under General Lincoln and Count d'Estaing, 1779" (1866); a translation of Pouchot's "Mémorial upon the Late War in North America between the French and English, 1755-60" (1866); "The Siege of Charleston by the British Fleet and Army under Arbuthnot and Sir Henry Clinton" (1867); "American Constitutions" (1880); "The Elements of Forestry: Information Concerning the Planting and Care of Forest Trees" (1882); and "Report on Forestry" (1882). He died at Lowville, N. Y., June 6, 1885.

**EGLESTON, Nathaniel Hillyer**, clergyman, was born at Hartford, Conn., May 7, 1822, son of Nathaniel and Emily (Hillyer) Eggleston. He was a direct descendant of Bagot Eggleston, of Exeter, England, who came to America in the ship Mary and John, in 1630, and landed at Nantasket, Mass. From this ancestor and his wife, Mary Talcott, the descent is traced through James and Hester (Williams) Eggleston; their son Isaac and Mary (Stiles) Eggleston; their son Nathaniel and Abigail (Goodwin) Eggleston, and their son Samuel and Dorcas (Loomis) Eggleston, parents of Nathaniel Eggleston. Bagot Eggleston, early removed to Windsor, Conn., where he became an extensive land-owner; his son James was a soldier in the Pequot war, and received a grant of 50 acres of land for his services. Nathaniel H. Eggleston was educated in the schools of his native city, and was graduated at Yale College in 1840. For a year after graduation he read law, and then entered upon the study of theology at the Yale Divinity School, where he completed the course in 1844. His first pastoral charge was over the Congregational church at Ellington, Conn., where he remained five years (1845-50), and he was thereafter settled at New Haven (1850-51); at Brooklyn, N. Y. (1852-53); Chicago (1854-55); Madison, Wis. (1855-60); Stockbridge, Mass. (1860-69). He was associate professor of rhetoric at Williams College (1869-70), and later, conducted a select



school at Williamstown. He helped found the American Congregational Union in 1853 and was one of the founders of the Chicago Theological Seminary, and an editor of the "Congregational Herald." In addition to his clerical and denominational work, Mr. Eggleston devoted considerable study to the laying out of small villages; frequently lectured on the subject, and wrote a book, "Villages and Village Life" (1878). He was also one of the first in this country to devote serious and systematic attention to the subject of forestry. His contributions to the magazines, and other publications, led to his becoming a delegate to the forestry congress at Cincinnati in 1882, on which occasion he helped found the American Forestry Association, and was chosen one of its vice-presidents. In the following year he accepted the office of chief of the newly-founded bureau of forestry, in the department of agriculture, and continued to serve until 1886. The division of forestry owes its origin largely to the action of the American Association for the Advancement of Science, which in 1873 appointed a committee to memorialize congress on the "importance of promoting the cultivation of timber and the preservation of the forests." The immediate result was a provision by the 43d congress appointing a commissioner of forestry, with duties similar to the commissioner of fisheries. The 44th congress provided for the appointment of a "man of approved attainments and practically well acquainted with the methods of statistical inquiry. \* \* \* with the view of ascertaining the annual amount of consumption, importation and exportation of timber and other forest products \* \* \* and the measures that have been successfully applied in foreign countries, or that may be deemed applicable in this country, for the preservation and restoration or planting of forests." At the same time an appropriation of \$2,000 was made for the carrying out of the work here outlined. Accordingly, Frederick Watts, then commissioner of agriculture, appointed Franklin B. Hough, of New York, a noted statistician, to the post on Aug. 30, 1876. Hough prepared three voluminous reports, published by congress in 1877, 1880 and 1882. In 1883 he was displaced as chief of the bureau by Dr. Eggleston, who produced one report (462 pages) in 1884, and was succeeded in 1886 by Dr. B. E. Fernow. Even after his retirement from the post of chief of bureau, Dr. Eggleston remained in the service, occupied chiefly in compiling material for departmental reports on forestry, until his resignation in 1898 when he retired to Jamaica Plain, Mass. He published "Handbook of Tree-planting" (1883), "Arbor Day Leaves" (1893), and other pamphlets and magazine articles, on the subject of tree-planting and forestry. He was married, July 30, 1844, to Sarah Ann, daughter of Thomas Winship, of Hartford, Conn., and had five children, of whom two sons and one daughter survive.

*Died in 1912.*  
**FORBES, Stephen Alfred**, naturalist and educator, was born in Stephenson county, Illinois, May 29, 1844, son of Isaac Sawyer and Agnes (Van Hoesen) Forbes. His earliest American ancestor was Daniel Forbush, a native of Scotland, who emigrated to America previous to 1660, and settled at Cambridgeport, Mass. His wife was Rebecca Perriman, and the line is traced through their son Thomas, who married Dorcas Rice; their son Aaron, who married Susanna Morse; their son Stephen, who married Mary ———, and their son John, who mar-

ried Anna Sawyer, and who changed the spelling of the name to Forbes, and who was Mr. Forbes's grandfather. His early education was obtained in the country schools and at Beloit Academy. At the age of seventeen his studies were interrupted by the civil war, when he enlisted as a private in the 7th Illinois cavalry and served through the entire war, spending five months in prison. He was made a lieutenant at nineteen and captain of his company at twenty. After the close of the war he studied medicine for three years and attended Rush Medical College in 1867. He subsequently studied botany while teaching in the public schools, and contributed his first scientific articles to the "American Entomologist and Botanist" in 1870. In 1872 he was appointed curator of the museum of the Illinois State Natural History Society at Normal, two years later becoming professor of zoology in the Illinois State Normal University, while for two years he was director of the Normal Summer School of Natural History. He founded the Illinois State Laboratory of Natural History in 1878, and was made its director, which place he still retains. Since 1882 he has been state entomologist of Illinois; professor of zoology at the University of Illinois since 1884; dean of the University College of Science since 1888, and president of the Cambridge, Mass., Entomological Club (1886); of the Western Society of Naturalists (1890), and of the American Association of Economic Entomologists (1892). He organized the international congress of zoologists at Chicago in 1893, and acted as director of the aquarium of the U. S. fish commission at the Columbian exposition. In April, 1894, he secured the establishment at Havana, on the Illinois river, of a state biological station devoted to a continuous investigation of the whole system of the aquatic life of the Illinois and Mississippi rivers. It was the first attempt in the world to secure a scientific study of the biology of a river system. Prof. Forbes has successfully conducted a natural history survey of Illinois and numerous zoological expeditions to Yellowstone Park, to northwestern Montana, to lakes Michigan and Superior and to various Wisconsin lakes. Among his scientific publications are the "Bulletin of the Illinois State Laboratory of Natural History," begun in 1872, a series of final reports on the zoology of the state, and about two hundred contributions to zoological science, including twelve reports as state entomologist of Illinois. As an investigator his principal work has been in the department of animal oecology, while his reputation among scientific men has been gained by his careful and searching studies of the food of birds, fishes, and insects; by his work, the first in the United States, on the contagious diseases of insects; by his articles on the fresh water crustacea of the United States, and by his experiments in economic entomology. In 1884, Prof. Forbes received the degree of Ph.D. from the Indiana State University.



S. A. Forbes

**STONE, William Alexis**, twenty-third governor of Pennsylvania (1899-1903), was born in Delmar township, Tioga Co., Pa., April 18th, 1846, son of Israel and Amanda (Howe) Stone. He studied at the district school, and worked on his father's farm until he was seventeen

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NATHANIEL HILLYER EGLESTON

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Dr. Nathaniel Hillyer Egleston, a New England Congregational minister, headed the Division of Forestry, U.S. Department of Agriculture, for three years (1883-1886). Scorned by Gifford Pinchot who referred to him as "one of those failures in life whom the spoils system is constantly catapulting into responsible positions," Dr. Egleston scarcely made a failure of his life. A product of the spoils system? --maybe; but then, the spoils system was an active principle in 19th century political life. A political aspirant, or candidate for public office, could hardly disregard the principle.

Nathaniel Egleston was born May 7, 1822, in Hartford, Connecticut, the son of Nathaniel and Emily Egleston. He attended primary and secondary schools in his native Hartford. In 1840 he was graduated from Yale college, and spent the next year studying law. He then decided upon a career with the ministry and began his theological studies at Yale Divinity School, finishing in 1844. He married Sarah Ann Winship of Hartford in 1844.

Egleston had a succession of pastorates in New England. Then he resided a short while in Brooklyn, New York, where he helped found the American Congregational Union and edited the First Congregational Society's church and religious newspaper.

Ap'd. by Geo. B. Loring, Secy. of Agr. under Pres. Garfield.

? at 18?  
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2 years  
age 22.

He spent a number of years in the Midwest, first in Chicago and later in Madison, Wisconsin. In Chicago he was one of the founders of the Chicago Theological Seminary and an editor of the "Congregational Herald."

During these years Dr. Eggleston took an active interest in rural life and forests. He lectured on village life and devoted much attention to the laying out of rural villages. In 1878 he wrote a book entitled "Villages and Village Life." He was also concerned with forest conditions in the United States, a concern that led him to contribute well-considered articles on forests to magazines and other publications. Though lacking any sort of scientific background, Eggleston gave serious thought to the plight of our Nation's forests as evidenced in an 1882 complaint on the neglect of America's forests published by Harper's Magazine. In the article Dr. Eggleston echoed the arguments of men such as George P. Marsh who in a masterful 1864 ecological treatise, "Man and Nature", described the destruction of Old World forests and the disastrous results which followed. Eggleston decried the contemporary destruction of New World forests and predicted parallel disastrous consequences.

Dr. Eggleston, now a resident of Stockbridge, Massachusetts, recognized and applauded the efforts of the American Association for the Advancement of Science which sought to protect forests in the public domain and to build up a body of knowledge concerning America's forest resources. (The association

in 1876 secured by means of a memorial <sup>that it sent</sup> to Congress <sup>in 1873,</sup> the appointment of Dr. Franklin B. Hough to a post in the Agriculture Department as a special agent. Hough was instructed to report on the means of preserving and renewing forests; the effects of forests upon climate; availability of timber and forest products for present and future use; and to report on foreign methods of forest management.) Hampered by a limited understanding of the scientific complexities of forest use and preservation, Eggleston nevertheless sought to promote in a popular sense the cause of forest preservation. His interest in America's forests and literary efforts on their behalf led to his becoming a delegate to the American Forestry Congress at Cincinnati, Ohio, early in 1882.

The Cincinnati Congress and American Forestry Congress held later the same year in Montreal served as forums for disparate elements in the early forest conservation movement. Unification of all organized forest conservation interests was a dominant force at the Montreal congress. In response to the unification theme the American Forestry Association--originally founded by Dr. John Warder in 1875--merged with the American Forestry Congress. Eggleston assisted in the ~~merger~~<sup>er</sup> of the two organizations and was made a vice-president of the new American Forestry Association. The association has been a dominant force in United States forestry ever since.

Representing the State of Massachusetts, Dr. Eggleston headed Section D of the Congress, on "Forestry Education." Franklin

Hough was another Congress representative. They were the same age. Dr. Hough, as the first chief of the Agriculture Department's Forest Division, and recently returned from a European forest inspection tour, was a central figure at the Congress. He had prepared two widely acclaimed voluminous reports on forestry. However, newly appointed Commissioner of Agriculture <sup>C</sup>George B. Loring--formerly of the Massachusetts State board of agriculture--who was elected president of the new American Forestry Association, took a dim view of Hough's European achievements. An element within the Department hostile to Hough had evidently negatively influenced Commissioner Loring's opinion of his chief forest official. Hough later wrote of his reception upon returning from Europe in 1881: "I was received coldly, and treated in a most insolent manner." It was even suggested by Commissioner Loring that Hough pay his own expenses to the Cincinnati Congress. At any rate Loring overlooked Hough's accomplishments and in <sup>May</sup> 1883 replaced him with Nathaniel Egleston, a fellow New Englander. Egleston thus became the second person to hold the position of chief federal forester in the Department of Agriculture...

Dr. Egleston stayed for three years as chief of the Division of Forestry. Franklin Hough, who loyally remained with the Division, and others were invaluable to Egleston who lacked the background and energy of Hough. Reports on reforestation, wood utilization, silviculture, and forest description were prepared by Dr. Hough and others better versed in the scientific aspects of forestry. Egleston continued his efforts



to advertize the desirability of government involvement in forestry education and the establishment of forest research stations. He was particularly adamant in emphasizing the need for government protection of its own forest holdings. Egleston was inturn replaced as chief of the division in 1886 by Bernhard E. Fernow--a professional forester from Germany. Egleston remained to assist in the division's operation until retirement in 1898, when a brusque Gifford Pinchot assumed command from Fernow.

Egleston's remaining years with the division were spent primarily in compiling material for the Department's annual forestry reports. In 1889 the law committee of the American Forestry Congress chose Egleston to present their views to President Benjamin Harrison. In 1891, he and Bernhard Fernow were present at a conference with the new Secretary of Interior, John W. Noble, concerning the protection and reservation of public forest lands. Fernow considered the session crucial to Secretary Noble's support of legislation giving the President power to establish forest reserves from the public domain. The legislation was passed March 3, 1891, as a rider attached to a bill revising public land laws. It signalled the beginning of the National Forest System.

During his <sup>Life</sup> Egleston wrote numerous articles and pamphlets on tree planting and forests. His "Hand-book of Tree-planting" was published in 1883, and "Arbor Day Leaves" in 1893.

Egleston retired in 1898 to Jamaica Plain, Massachusetts, where he died in 1912. He was the last man without technical training in scientific forestry to head forestry work in the Department of Agriculture.

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Dr. Eggleston attended primary and secondary schools in his native Hartford. In 1840 he was graduated from Yale college. The year following graduation was spent studying law. He then decided upon a career with the ministry and began his theological studies at Yale Divinity School completing the necessary courses in 1844. He married Sarah Ann Winship of Hartford in 1844.

The years following graduation from Yale Divinity School were occupied by a succession of pastoral and educational posts. His pastoral duties took him to several New England locations. He resided a short while in Brooklyn, New York, where he helped found the American Congregational Union and edited the First Congregational Society's church and religious newspaper. He spent a number of years in the mid-west, first in Chicago and later in Madison, Wisconsin. In Chicago he was one of the founders of the Chicago Theological Seminary and an editor of the "Congregational Herald." During these years Dr. Eggleston took an active interest in rural life and forests.

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The Cincinnati Congress and a subsequent American Forestry Congress held the same year in Montreal served as forums for disparate elements in the early forest conservation movement. Unification of all organized forest conservation interests was a dominant force at the Montreal congress. In response to the unification theme the American Forestry Association--originally founded by Dr. John Warder in 1875--merged with the American Forestry Congress. Dr. Eggleston assisted in the mergence of the two organizations

and was made a vice-president of the new American Forestry Association. The association has been a dominant force in United States forestry ever since.

Representing the state of Massachusetts, Dr. Egleston headed Section D of the Congress, on "Forestry Education." Franklin Hough was another Congress representative. Hough, as the first chief of the Agriculture Department's Forest Division, and recently returned from a European forest inspection tour, was a central figure at the Congress. Newly appointed Commissioner of Agriculture Dr. George B. Loring--formerly of the Massachusetts state board of agriculture—took a dim view of Hough's European achievements. An element within the Department hostile to Hough had evidently negatively influenced Commissioner Loring's opinion of his chief forest official. Hough later wrote of his reception upon returning from Europe: "I was received coldly, and treated in a most insolent manner." It was even suggested by Commissioner Loring that Hough pay his own expenses to the Cincinnati Congress. Whatever were the politics of the situation Franklin Hough left his post as head of federal forestry in 1883 to be replaced by Dr. Egleston who became the second person to hold the position of chief federal forester in the Department of Agriculture.

Dr. Egleston served three years as chief of the Division of Forestry. Franklin Hough who remained with the Division and others were invaluable to Egleston who lacked the necessary technical expertise in forestry. Reports on reforestation, wood utilization, silviculture, and forest description were prepared by Hough and others better versed in the scientific aspects of forestry. Dr. Egleston continued his efforts to advertise the desirability of government involvement in forestry education and the establishment of forest research stations. He was particularly adamant in emphasizing the need for government protection of its own forest holdings. Dr. Egleston was replaced as chief of the division in 1886 by Bernhard Fernow—a professional forester—but remained to assist in the division's operation until his retirement in 1898.

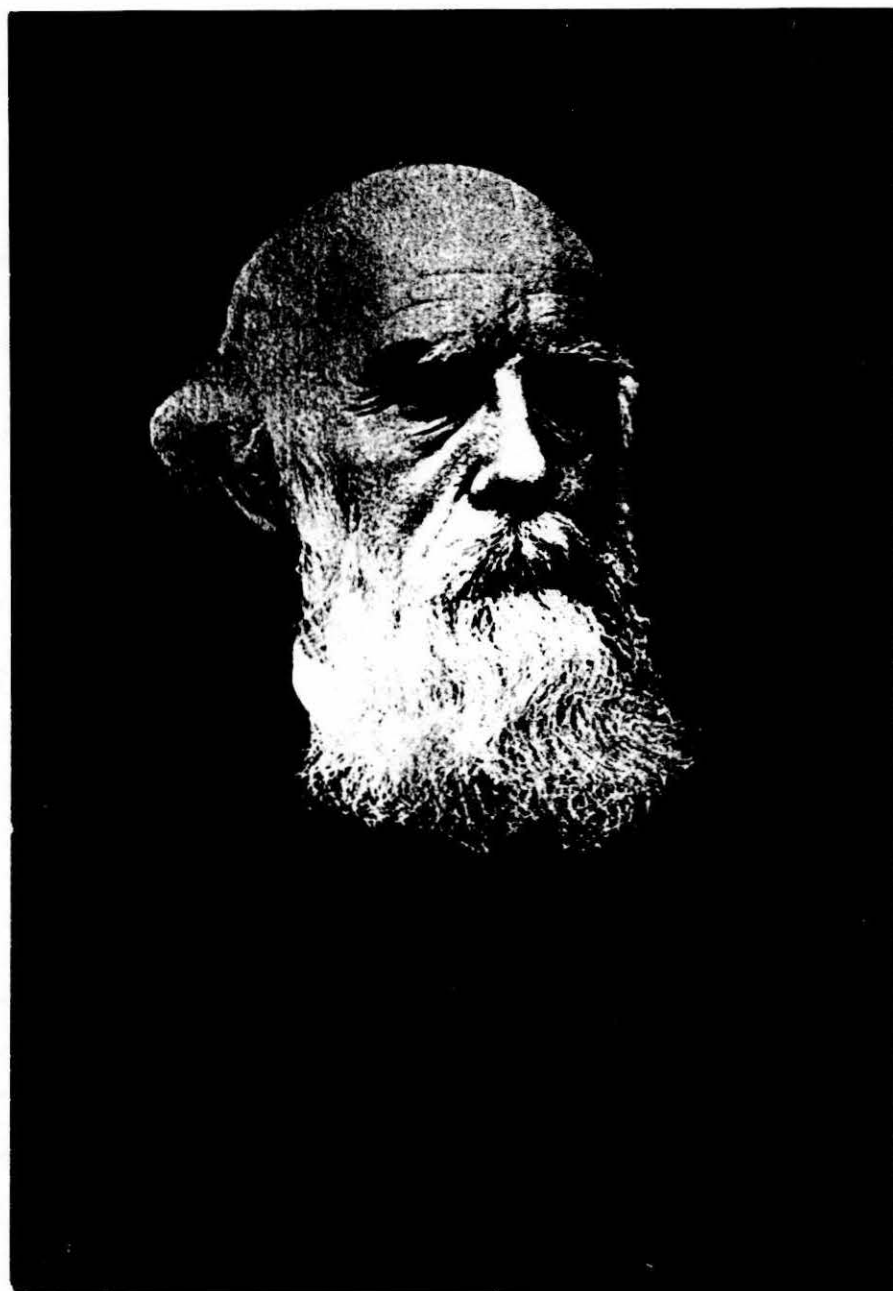
Dr. Egleston's remaining years with the division were spent primarily in compiling material for the Department's annual forestry reports. In 1889 the law committee of the American Forestry Congress chose Egleston to present their views to President Benjamin Harrison. In 1891, he and Bern-



hard Fernow were present at a conference with the new Secretary of Interior John W. Noble concerning the protection and reservation of public forest lands. Fernow considered the session crucial to Secretary Noble's support of legislation giving the President power to establish forest reserves from the public domain. The legislation was passed March 3, 1891, as a rider attached to a bill revising public land laws. It signalled the beginning of the National Forest System.

During his life Dr. Eggleston wrote numerous articles and pamphlets on tree planting and forests. His "Hand-book of Tree-planting" was published in 1883, and "Arbor Day Leaves" in 1893.

Dr. Eggleston retired to Jamaica Plain, Massachusetts where he died in 1912. He was the last man without technical training in scientific forestry to head forestry work in the Department of Agriculture.



Nathaniel H. Eggleston.

See "bro photos"



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PROCEEDINGS

OF THE

AMERICAN FORESTRY CONGRESS



AT ITS MEETING HELD IN BOSTON, SEPTEMBER, 1885.

WASHINGTON:  
JUDD & DETWEILER, PRINTERS  
1886.

ment no one can doubt. True, the power of private interests may ultimately develop all necessary remedies for existing evils, but behind and attendant upon these private interests must go a popular understanding of the importance of the questions involved and a consequent popular readiness to support measures necessary to accomplish the desired object. For the education of the popular mind to this standard all the efforts of colleges, schools, scientific investigators, and associations should be encouraged in their work. In this direction the American Forestry Congress may well continue the valuable work upon which they are engaged.

## THE STATE OF LEGISLATION IN REGARD TO FORESTS.

BY N. H. KOLESTON.

Legislation in respect to forests takes the two general forms of laws for the protection and preservation of existing forests and laws to encourage the planting of new ones. By far the greater amount of legislation is of the former kind, it being only within a few years that any noticeable provision of law has been made to promote the planting and cultivation of new forest areas.

It is remarkable also, that almost from the beginning of our history as a nation there was more or less anxiety on account of the early inroads made upon the timber. Among the earliest enactments of the Colonies, particularly the northern ones, we find some designed for the preservation of the trees, and there are records of numerous votes of towns for the same purpose. For instance, the Provincial Assembly of New Hampshire, as early as 1708, forbade the cutting of mast-trees on ungranted lands under a penalty of £100 sterling. The Province had at that early time also a surveyor-general of forests, appointed by royal authority, for the purpose of preventing depredations upon timber. The office was held at one time by Benning Wentworth, subsequently the well-known Governor of the Province. In 1640, only two years after its settlement, the inhabitants of Exeter adopted a general order for the regulation of the cutting of oak timber. Other towns manifested a like concern for the preservation of their forests, and adopted similar measures.

In Pennsylvania, well wooded as its very name assures us it was at the time of its settlement, and well wooded as it still is, ranking as the third State of the Union in the amount of lumber which it produces, in an instrument entitled "Conditions and concessions agreed upon by William Penn, Proprietary and Governor of the Province, and those who are the adventurers and purchasers in the said Province," dated July 11, 1681, and intended as a charter of rights to the colonists, the following provision was made in reference to the maintenance of the timber supply:

"XVIII. That in clearing the ground care be taken to leave one acre of trees for every five acres cleared, especially to preserve oak and mulberries for silk and shipping."

In Massachusetts a similar care for the trees was manifested, and towns, as well as the General Court, took action for their protection.

As the early action for the protection of trees, by the Colonies and by individual towns under the colonial government, was caused principally by the apprehension of a scarcity of timber for marine and naval construction, so the same apprehension, after the country had passed out of the colonial condition, led to the adoption of measures by the Federal Government for the protection of such trees especially as were most desirable for ship building. The well-known scarcity of such timber in Europe led to the fear that the countries across the Atlantic would make such large demands upon the forests here as would render it difficult to procure an adequate supply for our own wants. Accordingly, it was only a few years after the action of the Federal Government, in 1794, authorizing the construction of four ships of forty-four guns and two of thirty-six guns, for the protection of American commerce against the Algerines, that a vote was passed appropriating \$200,000 for the purchase of growing or other timber, or of lands on which timber is growing, suitable for the Navy, and for its preservation for future use.

Florida and the Gulf coast, where grew that specially valuable tree for ship-building, the live oak, did not belong to us at this time, and the amount of that timber growing within the limits of the Union was comparatively small. Some purchases were made along the coast of Georgia under the act of 1799, but nothing more was done by the General Government for the preservation of timber until the year 1817, when an act was passed directing the reservation of such public lands having a growth of live oak or cedar suitable for the use of the Navy as might be selected by the President. Under



at act commissioners were appointed, and two islands on the coast of Louisiana, containing about 20,000 acres, and supposed to have growing upon them 37,000 live-oak trees, were reserved for the use of the Government. Ten years later, it having been found that an extensive exportation of live oak, averaging one hundred and fifty carrees annually, had been going on for several years, the sum of \$10,000 was granted for the purpose of purchasing live oak and other timber lands for the Navy, and an act on Santa Rosa Sound was purchased, and for a time considerable was done in the way of planting and cultivating the live oak.

By another act—that of March 3d, 1827—the President was authorized to take proper measures to preserve the live-oak timber growing on the lands of the United States, and to reserve such lands in sufficient quantities to render the same valuable for naval purposes.

By an act of March 2d, 1881, provision was made for the punishment of persons for cutting or destroying any live oak, red cedar, or other trees growing on any lands of the United States, by a fine of not less than three times the value of the timber cut and imprisonment not exceeding twelve months.

Under the act of 1817 and subsequent acts there have been reserved in Florida, Alabama, Mississippi, and Louisiana about 250,000 acres of timber land.

Aside from these reservations of timber for naval purposes, no action has been taken for the preservation of timber until quite recently, when the Yellowstone Park was made a reservation. With this exception the Government has been strangely neglectful of the timber land in its possession. It has scarcely given sufficient attention to it to ascertain its location with definiteness or the character and value of the trees growing upon it. It has allowed trees to be cut and burned almost with impunity. It has made enactments, indeed, forbidding the destruction or theft of its timber, but has adopted such feeble and irresolute measures to enforce its laws that they have had little practical efficacy. At the present time the timber on the public domain is being plundered both by individuals and corporations, and hardly any check is put upon it.

Of the several States, in distinction from the General Government, it may be said that all of them have recognized the forests as having some value as property and have protected them on this account to a certain extent. Most, if not all of them, have made enactments against the cutting or injuring of timber growing upon the land of another or belonging to the State. But in making these enactments they have estimated the trees only according to their value for lumber or firewood, except the comparatively few planted along the roadsides or in parks and other public inclosures for purposes of shade and ornament. In these instances a somewhat higher value has been assigned and a heavier penalty decreed for their destruction. In all the legislation that has taken place in regard to forests, however, it may be said there has been no recognition of their importance from a sanitary or climatic point of view—their influence upon the distribution of moisture, upon the growth of crops, or upon the flow of streams and the consequent effect upon commerce and manufactures. Only in the lowest view of their importance have the forests been taken into account or efforts made for their protection and preservation. This is the general fact.

In all the States and Territories, and from an early date in their history, there have been laws designed to prevent injuries resulting from forest fires. Injuries from this cause have been so great at times, and are so constantly threatened, that protection from them becomes one of the earliest subjects to receive attention and to gain the aid of legal enactments. As might be expected, there is a general similarity in the laws enacted on this subject. The willful setting on fire the woods of another commonly exposes the offender to a fine or imprisonment, and in some cases to both, while it also renders him liable for all damage that his act may occasion. As willfulness can be proved, however, only in rare cases, laws of this class are operative, if at all, by their threat rather than their execution.

Another class of laws are those which inflict a penalty upon persons who set fire upon their own premises and allow it to extend to the premises of another. Such persons are usually made liable for all damages thus occasioned, unless they use all means in their power to prevent the extension of the fire beyond their own grounds, and, in some cases, unless they give notice beforehand to adjacent proprietors of their intention to kindle the fire. Persons are also made liable for the acts of their servants in this respect and to pay damages which they may occasion, and the servants themselves are also made liable to punishment. In some cases constables or other officers are authorized or required to call upon citizens to aid in extinguishing forest fires, and persons so called upon are liable to a fine if they refuse to give their aid. In some cases double damages may be claimed. Whipping has also been inflicted by many States in the case of servants or others unable or refusing to pay fines.

From the earliest period to the present the laws for the protection of forests from fires have been modified more or less with the purpose of making them more effective,

but the general testimony is that they have had but little efficacy. The forests are consumed now as frequently and extensively as ever. One reason of this is to be found in the difficulty of proving either malice or criminal neglect or carelessness. But another reason is the inadequate sense of the value of the forests and of the great loss involved in their destruction which is possessed by the mass of the community. The laws will be inefficient until the public sentiment in regard to the forests is changed. When old and young, educated and uneducated, understand and feel that the trees have a value for something else than as lumber or fuel; that they have a close connection with human welfare, with the health and comfort of man and beast, and are among the most precious possessions we have, then, and not till then, will forest fires be suppressed or kept within such narrow limits and made so infrequent that they will not be a serious concern to us. Then the school-boy, the sportsman, the poorest day laborer, will all alike look upon the trees with friendly interest and be their protectors, even without the incitement of law and penalty.

If we turn now from what has been done for the protection and preservation of the forests to what has been done to extend the wooded area by planting new ones, we shall find it but little and of recent date. While the desirableness of planting trees may have been felt here and there from a very early period, especially where trees have been somewhat deficient, or for the sake of securing new varieties, the first recommendation of tree-planting by any society or public body of men, so far as I am aware, was made in 1791 by the New York Society for the Promotion of Agriculture, Arts, and Manufactures. A committee was appointed for the purpose of considering the best mode of preserving and increasing the growth of wood and valuable timber. The committee reported in favor of devoting the lands least valuable for agriculture to the growth of trees, and that they should be stocked for this purpose. They insisted upon the importance of fencing out cattle, and, in short, advanced opinions and made recommendations on the subject which show a very enlightened understanding of it, quite in accordance with much of the best judgment and knowledge of our own times. If the recommendations of this society had been, to any considerable extent, adopted and carried out in corresponding action, the result would have been a great addition to the wealth of the State. By an act of the Legislature of New York, passed in 1869, tree planting is encouraged by allowing the overseers of highways to abate from the highway taxes of any land-owner the sum of \$1 for every four trees set out along the highway opposite his land, the abatement, however, not to exceed in any year more than one-quarter of the highway tax. In the present year the Legislature has appointed a Forest Commission, to which are given extensive powers of control over the public lands of the State. Provision is made for introducing instruction in forestry in the schools and for publishing tracts and circulars on trees and tree-planting. More effective laws have been made also for the protection of forests from fire.

Colorado is in advance of all other States in having a constitutional provision in behalf of the forests. The eighteenth article of her constitution provides that "The General Assembly shall enact laws in order to prevent the destruction of and to keep in good preservation the forests upon the lands of the State or upon the lands of the public domain, the control of which shall be conferred by Congress upon the State." The appointment of a Forest Commissioner this year was the first decisive action taken in compliance with this mandatory provision of the constitution. The Forest Commissioner has the care of all woodlands owned or controlled by the State. He is to make rules and regulations for the prevention of trespass upon such lands, for the prevention and extinguishment of fires, and the conservation of forest growth. He is also, so far as possible, to promote the extension of the forest area, encourage the planting of trees, and preserve the sources of water-supply. The County Commissioners are also enjoined to encourage the planting of trees along water-courses and irrigating ditches and in other proper places. By other acts persons are made liable in triple damages for any injury to the trees of another, whether on enclosed lands or on the highway. The increased value of land, occasioned by planting fruit or forest trees upon it, is not to be assessed for the period of ten years after the trees are planted. A premium is also offered, for six consecutive years, for every one hundred forest trees planted along irrigating ditches.

In California the Board of Supervisors of any county of the State are empowered to authorize the planting of shade and fruit trees along the public roads by persons owning the adjacent lands, and persons planting such trees, according to the regulations of the Board, are entitled to one dollar for each tree so planted and growing thriftily four years after the time of planting.

In Connecticut a law was passed in 1877 to encourage tree-planting. It was provided by this act that planted woodlands which, at the time of planting, were not worth more than fifteen dollars an acre should be exempt from taxation for ten years. By an act of 1881 a bounty was offered for planting trees on the highways.

In the so-called Prairie States, lacking trees to a great extent at the time of their settlement, the people became tree-planters almost from necessity, and those States have been among the earliest to encourage tree-planting by offering bounties directly, by the exemption from taxation for a certain number of years of land devoted to trees. They have been the first also to adopt Arbor Day and to prove its efficacy.

More than ten years ago (1874) Illinois passed a law for the encouragement of the planting and growing of timber, by allowing the Board of Supervisors or the County Commissioners' court in any county to offer a bounty, to any person who should plant one or more acres of forest trees and properly cultivate the same for three years, of a value not exceeding ten dollars per annum for three years for each acre so planted.

Iowa in 1868 passed an act exempting from taxation the real and personal property of each tax-payer, who should plant and suitably cultivate one or more acres of forest trees for timber, to the amount of \$100 for ten years for each acre so planted and cultivated.

Kansas in 1868 passed a similar law, offering a bounty of two dollars for every acre of prairie land that might be planted, within ten years, with any kind of forest trees, excepting black locust, and successfully grown and cultivated for three years. A like bounty was offered for each half mile of trees planted along any highway and cultivated and protected for three years. The bounty was to continue twenty-five years if the plantation was continued in growing condition so long. This act was subsequently repealed, not because the people of Kansas did not continue to favor the planting of trees, but because the further offering of bounties was not needful.

The Legislature of Nebraska in 1869 provided an exemption of \$100 a year for five years on every acre of trees planted and suitably cultivated. The constitution subsequently adopted forbade the exemption of private property from taxation, but made it allowable that the increase in value of land, by reason of its being planted with trees or live fences, should not be taken into account in the assessment of the same. Towns were required to plant shade-trees, and taxes are levied on this account. Arbor Day, which originated in this State, has been heartily adopted by it, and more than 500,000 acres of planted forests are now beautifying and enriching the plains of Nebraska.

In Missouri, by an act of 1870, every person planting one acre or more of prairie land, within ten years from the passage of the act, with any kind of forest trees except black locust, and successfully growing and cultivating the same three years, and every person planting, protecting, and cultivating for three years one-quarter of a mile or more of forest trees upon his own land, to be set not more than one rod apart and to stand at the end of three years not more than two rods apart, shall be entitled to receive for fifteen years an annual bounty of two dollars per acre and two dollars for each quarter of a mile so planted. This act was amended in 1876 by extending the time to ten years from that date as the limit within which planting might be begun.

Michigan, which is cutting off her rich growth of forest with fearful rapidity, has done nothing to replace the trees removed. She has, however, encouraged the planting of trees along the roadside by allowing any one to pay twenty-five per cent. of his highway tax by planting trees on the margin of the road adjacent to his own land. By an act of 1881 any one injuring such trees is made liable to an action for damages from \$1 to \$25 for each offense.

In 1871 Minnesota passed "an act to encourage the planting and growing of timber and shade trees." This has been modified and amended at various times since. It provides that every one planting and cultivating from one to ten acres of forest trees for six years, and every one planting and keeping in growing condition half a mile or more of trees along the highway, shall be entitled to three dollars annually for each acre and two dollars for each half mile of such line of trees for six years. This State has also appropriated \$5,000 to its State Forestry Association, to enable it to publish a manual of tree-planting and to secure lectures and experimental cultivation of trees, to distribute trees and tree seeds, to give information as to the best method of preventing forest fires, &c.

Nevada, ranking among the lowest of our States in respect to timber supply, and rapidly wasting that supply, has passed an act similar to that of Minnesota for the encouragement of tree-planting. Every person planting one acre or more of land, within ten years after the passage of the act in 1877, with any kind of forest or shade trees, and cultivating the same for three years, and planting and cultivating for the same time one-half mile or more of trees along the highway, is entitled to receive for twenty years, commencing two years after the trees are planted, an annual bounty of ten dollars per acre and ten dollars for each half mile so planted. The taxable value of the land is not to be increased by such planting, and stringent penalties are provided to protect the trees from injury.

Maine, the Pine Tree State, has been one of the first of our States to legislate for the preservation and extension of forests. In 1872 the Legislature enacted a law, pro-

viding that any landholder who should plant or set apart any cleared lands for the growth and protection of forest trees, within ten years after the passage of the act, and cultivate the same for three years, the trees being not less than two thousand to the acre, the lands so planted should be exempt from taxation for twenty years. The act also encouraged the planting of trees along highways by a similar exemption from taxes, and provided proper penalties for the removal or injury of trees thus planted.

The general statutes of Massachusetts prescribe that the Agricultural Societies receiving the bounty of the State shall offer premiums, at their discretion, for the raising and preserving of oaks and other trees best adapted to perpetuate a supply of ship timbers. They also encourage the formation of societies for the purpose of improving streets and public squares by planting ornamental trees thereon. Massachusetts was the first State in the Union to institute a special survey of its forest resources. This was in 1837, and the Report of Mr. Geo. B. Emerson on the Trees and Shrubs of Massachusetts, in two volumes, is not only an honor to the State but a treasury of information in regard to a large portion of the trees with which our country abounds. The subject of forestry has been discussed by the Agricultural Societies and the public journals more amply and for a longer time, perhaps, than in any other State, as a result of which, or at least coincident with which, numerous tracts of land, especially in the eastern portion of the State, have been planted with forest trees and are to-day the most conspicuous instances of successful forest-tree planting to be found in the country. As long ago as 1804 the State Society for Promoting Agriculture offered, among other prizes, one "To the person who shall produce from seed the best growth of trees, not less than 600 in the whole, and in the proportion of 2,400, to the acre, of any of the following kinds of forest trees, viz: Oak, ash, elm, sugar-maple, beech, black or yellow birch, chestnut, walnut, or hickory, \$25; if all of oak, \$50. In 1876 this Society offered premiums, ranging in amount from \$400 to \$1,000, for the best plantations on poor or worn-out land, not less than five acres in extent, of European larch, Scotch pine, and Corsican fir. Prizes were also offered for plantations of the white ash. In 1882 the State passed an act authorizing towns and cities to provide for the preservation and reproduction of forests. They may take or purchase any land and make public domain of it. The title of all such land vests in the Commonwealth, and is to be held in perpetuity for the benefit of the town. The State Board of Agriculture is also to act as a Board of Forestry and have the supervision and management of all such public domains.

New Hampshire in 1881 appointed a Board of Commissioners to inquire as to the extent of the destruction of the forests, the effect of forests on rainfall and the condition of streams, and in regard to the wisdom or necessity of forest laws. The Commissioners have attended to their duties faithfully and have made an extended report of the result of their inquiries. They deplore the rapid and inconsiderate manner in which the forests have been destroyed and urge the adoption of effective measures to secure the preservation of what remain and their proper management. They set forth the fact that the mountainous character of the State adapts it especially to the growth of trees rather than of agricultural crops, and that the most profitable use of a large part of the land in New Hampshire will be found in devoting it to the cultivation of forests. No action has been taken in regard to this report, but by existing law towns may raise money to set out shade trees and abate taxes to persons who do so.

Ohio established in 1882 an Agricultural Experimental Station, part of the operations of which are to be the planting and testing of trees in an arboretum and the encouragement of tree-planting throughout the State. Later a Forestry Bureau has been created in connection with the State University at Columbus. This bureau is engaged in establishing forestry experiment stations.

Vermont is similarly situated to New Hampshire, and takes her name from her green, forest-covered mountain ranges. She has more land of an arable character than her neighbor State, and a considerable portion of her surface is adapted to the purpose of grazing, but the cultivation of her crops and of her flocks will be most successful only as her forests are cherished and protected. In 1882 commissioners were appointed "to inquire into the subject of the forests of Vermont as to their extent and condition, and what, if any, measures should be taken in respect to their preservation." The committee made a carefully-prepared and instructive report to the Legislature in October of last year, recommending certain enactments for the better protection of the forests, but no action has yet been taken by the Legislature.

It is not necessary to make mention further and specifically of the existing condition of forest legislation in the several States. In most of the older States, especially those of the North, there has arisen within a few years past a sense of the value of forests for something besides their lumber products, and some measures have been taken to guard the existing forests from too rapid destruction and to encourage forest-planting. The Southern States, most of them being heavily wooded and with less



mand made upon their forests than has been made upon those at the North for timber products, have not felt as yet the necessity of planting trees, and their legislation has been limited, for the most part, to guarding the existing woodlands against the ravages of fire and from the plundering of thieves. The newer States, many of them comparatively treeless, have been the most forward to promote forest-tree planting. This they have done by offering liberal premiums—by exemption of planted forests from taxation for a term of years and by the adoption of Arbor Day, which from year to year appeals to all the people of the State to unite in the simultaneous work of tree-planting.

The condition of legislation on the part of the General Government in distinction from that of the individual States may be given in few words. We have seen already that in the early years of our history measures were taken by the Government to protect such timber as was suitable for the construction of naval vessels, and to acquire a larger supply than it then had, by purchasing certain islands and land upon the seacoast where such timber was to be found. In recent years the Government has made various enactments for the purpose of preventing depredations upon its timber lands by thieves. These enactments have been suitable to the case, but, like other enactments, they will not execute themselves or inflict the proper penalty upon evil-doers, and the appropriations made by Congress for the purpose of guarding the public forests, or bringing the depredators upon them to conviction and punishment and recovering the stolen property, have been quite inadequate, and so the plundering goes on to the extent of millions annually in value.

The Government has also sought to promote the planting of new forests by means of the Timber-culture Act, in itself most commendable and promising great benefit to the country, but which has been so often evaded, with the result of the acquisition of land without cost and under false pretenses, that many are of the opinion that the act should be repealed.

Largely through the efforts of a recently-deceased member of this congress and one of its officers, the attention of the National Congress has been directed, within a few years past, to the general subject of forestry, and an inquiry has been set on foot, in connection with the Department of Agriculture, in regard to the existing condition of the forests of the United States; the annual amount of consumption, importation, and exportation of timber and other forest products; the probable supply for future wants; the means best adapted to the preservation and renewal of forests; the influence of forests upon climate, and the measures that have been successfully applied in various countries for the preservation and restoration or planting of forests. A Forestry Division of the Department of Agriculture has been created for the purpose of prosecuting these inquiries, and four volumes of reports from this Division have been published, embodying a large mass of information in regard to the subjects embraced in the scope of its inquiries. It may be said without hesitation that nowhere else within an equal compass is there to be found in the English language such an amount of information in regard to the subject of forestry. Facts of the utmost importance have thus been brought within the reach of the people, and if appropriate action is taken by them it will be of immeasurable value to the country, evils and disasters which have fallen upon other countries as the result of the loss of their forests may be avoided by us, and the trees may be converted into the most important means of our continued prosperity.

## WHAT ARE THE ESSENTIAL FEATURES OF AN EFFICIENT FOREST-FIRE LEGISLATION?

BY S. W. POWELL.

In the nature of the case answers to this question can be definite and specific only upon the negative side. There has been sufficient experiment to ascertain some features which are not desirable. We know several things that *will not* work, but do not, as yet, know exactly what *will* work. The object of this paper is merely to indicate, upon the positive side, some of the general features or characteristics of any successful legislation designed to prevent forest fires or, when they do occur, to limit their range as much as possible.

The first point that suggests itself is this: Such legislation must be framed with a proper understanding of its *importance*. As we are not now considering the need of such legislation—a large subject in itself—it will serve the present purpose merely to allude to the fact that the direct damage done by forest fires is probably not less than three hundred million dollars a year, and that the indirect damage in the way of denuding steep slopes and sending the ashes resulting from burning the soil, and what grew out