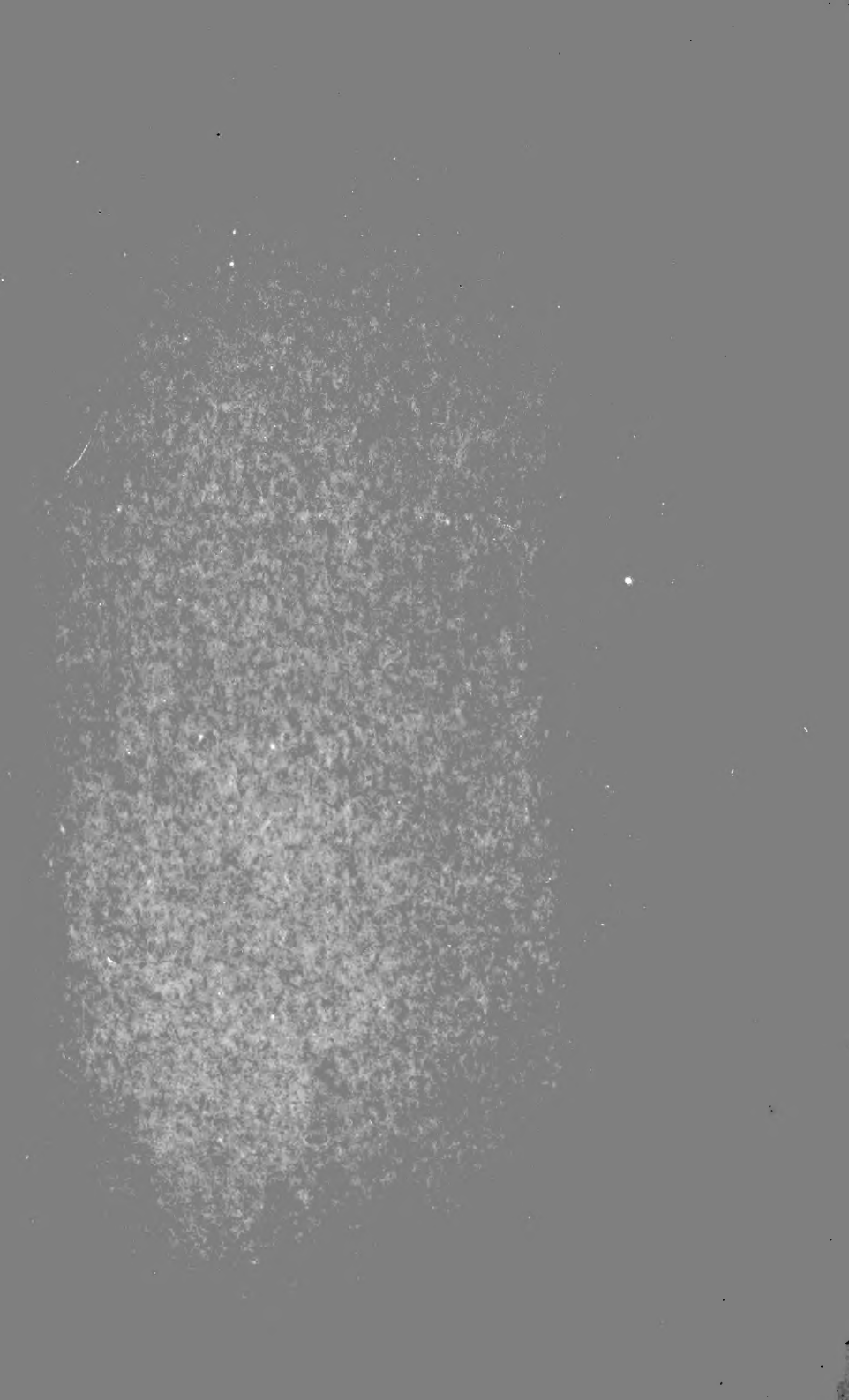


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Catalogue of Trees in Capitol Grounds



ANNUAL REPORT

OF THE

ARCHITECT OF THE UNITED STATES CAPITOL

FOR THE

FISCAL YEAR ENDING JUNE 30, 1882.

EDWARD CLARK,

ARCHITECT.

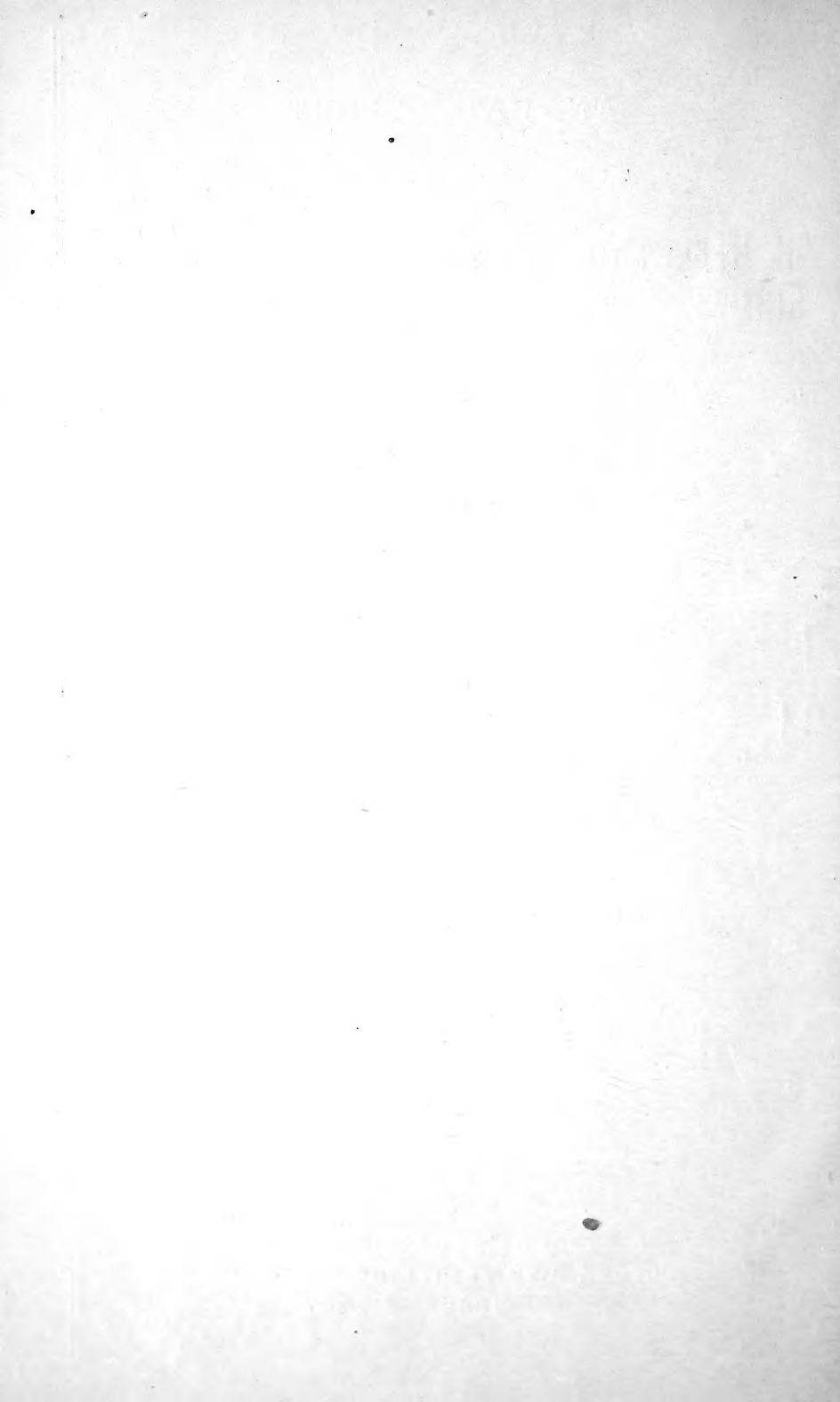
WITH A PAPER RELATING TO THE TREES, SHRUBS, AND PLANTS IN THE
UNITED STATES CAPITOL GROUND, AND AN INDEX OF THE SAME,
TOGETHER WITH SOME OBSERVATIONS UPON THE PLANTING
AND CARE OF TREES IN THE DISTRICT OF COLUMBIA,

BY

FRED'K LAW OLMSTED,

LANDSCAPE ARCHITECT.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1882.



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1882.

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MUSEUM OF THE
MIDDLE EAST

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ANNUAL REPORT
OF THE
ARCHITECT OF THE UNITED STATES CAPITOL.

SIR: I have the honor to submit the annual report, showing the progress made since the last annual report in the various works under the direction of the Architect of the Capitol, and a statement of the expenditures made on account of the same during the fiscal year ending June 30, 1882.

THE CAPITOL.

At the beginning of the present Congress several additional rooms were required for the use of committees. So urgent was this demand, that rooms formerly occupied for storage and even ends of corridors have been fitted up to meet this want.

Rooms are now being made, as provided by law, in the crypt for the storing of books connected with the Library of Congress.

The file-room connected with the office of the Clerk of the House of Representatives has been extended in a fire-proof manner and furnished with iron shelving and metallic file-cases.

Bathing-rooms, as provided by a joint resolution, have been fitted up in the basement of the south wing, and the space formerly occupied by them has been annexed to the restaurant and put in condition for use. As many members have expressed a desire to have the marble tubs which were taken from the old bathing-rooms again brought into use, I have caused the two most free from cracks to be placed in the basement, in rooms constructed for that purpose.

The elevator in the House wing has been completed, and that in the Senate is being rebuilt so as to insure additional safety and speed. A warehouse lift, controlled by steam-power, is being put in the Senate wing for the convenient handling of documents connected with the folding-room at the basement.

A large amount of painting and other repairs have been made throughout the building.

The condition of the iron-work of the dome was found to be such that much of the old paint had to be taken off by mechanical and chemical means to get rid of the cracks, many of which had exposed the iron and caused rust stains. This condition appeared mostly confined to that part of the work which during its construction was primed with "plumbago" paint.

The old portion of the copper roof near the dome and over the rooms occupied by the Library of Congress has been so injured by materials

falling upon it when the dome was in course of construction that it can no longer be kept weather-tight, and I recommend that a new roof be placed over this portion of the structure the coming building season.

The heating apparatus of both wings has been kept in good running order. Of that of the House of Representatives—the running of which the Architect has more immediate charge—Mr. Launan, the engineer, in his report, says :

Through the entire session of the last Congress the daily observations commenced last year were continued, accompanied by accurate instrumental tests and measurements. Of that which pertained to the heating and ventilating of the hall of the House of Representatives they have been carefully taken, tabulated, and preserved. They show for the period embraced in the months of December, January, February, March, and April the following results, viz :

Average relative humidity, per cent	46 $\frac{3}{10}$
Average revolution fan per minute	58
Volume of air carried to hall by each revolution of fan, cubic feet	833
Volume of air carried to hall per minute [redacted], cubic feet	47, 872
Volume for each person present, per minute, cubic feet	68
Volume removed for each person present, per minute, cubic feet	72

It will be observed that the volume of air removed was somewhat greater than that delivered. This fact is largely due to the expansion of the air, as the measurements of the air delivered was made at its temperature at the outside, while that of the air expelled was made at the point of exit of the building, where it was heated and consequently increased in volume. During the Garfield memorial services, when there were 2,400 persons present in the hall, the machinery and appliances of this department were severely tested and with most satisfactory results. There were forced into the hall 113,885 cubic feet of air per minute, that being nearly 48 feet to each person per minute. The temperature of the hall was likewise under easy control, as there was but one degree variation of temperature during this whole ceremony, the thermometer ranging between 69° and 70°.

The small fan has been taken down and reset, and the boilers have been repaired and placed in good order. As these boilers have now been in use twenty-four years, they have been stripped of all their coverings, thoroughly examined, and, to all appearances, are perfectly strong and secure; but during the next recess I am of the opinion that extensive repairs will have to be made to them. I am gratified that as a further measure of precaution you have requested the Secretary of the Navy to detail some of the engineer officers of his department to make a further test and inspection of these boilers.

The boilers above referred to have, in conformity with an order from the Navy Department, been inspected by Messrs. John Lowe and W. B. Bailey, passed assistant engineers United States Navy, who report as follows :

The boilers, four in number, were entirely stripped of their brick jackets, thus wholly exposing their exterior surfaces. The fire-boxes were first carefully inspected; during the time each was undergoing inspection the boiler was subjected to a hydrostatic pressure of 110 pounds per square inch, none of the flat surfaces in the fire-boxes showing any signs of weakness.

The following defects were found, however :

In furnace No. 1, three patches about the water-legs and one small blister.

In furnace No. 2, one small crack in the tube sheet and one patch on the water-leg.

In furnace No. 3, two patches and one blister on the water-legs.

In furnace No. 4, one blister, three patches, and one crack.

These defects do not materially impair the efficiency of the boilers, but we would recommend that the blisters be carefully watched and cut out if they are found to increase.

The water was then let out of the boilers, manhole plates removed, and the interior of the boilers examined. The boilers are well and sufficiently braced; the iron, such as can be seen, presents no signs of corrosion, mud deposit, or incrustation.

These boilers were built by Ellis & Sons, of Washington, in 1857, and are consequently twenty-five years old. Notwithstanding their great length of service, owing to good material and workmanship in construction, careful management, and the use of pure fresh water, we find them in good condition, and in our opinion perfectly safe for a working pressure of forty pounds per square inch.

ELECTRIC LIGHTING.

As relates to the machinery for electric lighting, Mr. A. B. Talcott, electrician of the House of Representatives, states that on entering upon his duties February 1, 1882, he found the coils and burners over the Hall of Representatives in excellent condition, and says in his report that—

Through long use the switches had become so burned and oxydized as to be wholly unreliable. It being impossible to make the necessary repairs while Congress was in session, a temporary system of connections was improvised which proved satisfactory for the time being. New switches, less expensive and more readily accessible, will be put in before the reassembling of Congress.

The electric valves, by which the gas is turned on and shut off the burners, have become worn, causing slight leaks. These are now being changed so as to place them under control of the operator at the switch board, and prevent leakage. From long use and frequent temporary repairs the connections between the burners in the Rotunda have become bared so as to form ground connections on the slightest movement of the glass globe. These will be renewed with new coils and supports for the same during the coming month.

The engine, dynamo-machine, and other apparatus are in good condition. During the months of March, April, and May a series of experiments was made by the American Electric Light Company in connection with their incandescent light, but through imperfections in their machinery no results were reached that would furnish data of any value. These experiments were conducted at their own expense, the use of the government engine being allowed them for motive power.

CAPITOL GROUNDS.

Relating to the Capitol grounds, Mr. Frederick Law Olmsted, landscape architect, furnishes the following report accompanied with an appendix, forming an index to trees about the Capitol, with advice to visitors interested in them. He says:

The principal construction works upon the Capitol grounds during the fiscal year ending July 1, 1882, have been the following:

PROGRESS OF CONSTRUCTION.

(1.) The southeast entrance-way, which is now completed, except in respect to lighting arrangements.

(2.) The entrance to the southern system of wheel-ways and walks from Maryland avenue, the stone work of which is complete.

(3.) The wall and coping on the east and south border by which the inclosure of the ground is completed.

(4.) The walls, coping, stairs, and drainage arrangements of the direct approach from Maryland avenue to the west entrance of the Capitol.

(5.) Foundation work of the parapet wall bounding the platform between the base of the Capitol and the central field of turf on the west.

(6.) Twenty-four thousand square feet of plain and 10,000 square feet of "mosaic" artificial stone flagging.

The ground adjoining the several new works of masonry, heretofore temporarily prepared, has been broken up, regraded, with improved modeling of the surface, and sodded or planted.

INCOMPLETE WORK.—THE TERRACE.

In reviewing the present aspect of the Capitol it should be borne in mind that the area within a distance of from 100 to 150 feet of the Capitol, including the slopes beyond the high earth works, remains as it was temporarily prepared twenty years ago pending the design of a general plan for the improvement of the ground. The more nearly the improvement beyond this space is brought to realize its local intention, the more unsuitable, shabby, and disorderly must the central and more conspicuous ground appear, so that the better the work done the less satisfactory is the result as a whole. The anomaly will be more and more marked until the terrace and western stairway shall have been completed and the adjoining ground graded and finished in adaptation to them.

The present Joint Committee on Public Buildings and Grounds have reviewed the plans for these structures adopted seven years ago by Congress, on the recommendation of their predecessors, and it is understood that all its members are convinced that

they should be carried out without needless delay. Until Congress adopts this conclusion the Capitol grounds must both be seen at disadvantage and produce impressions unjust to the general design incorporating them.

For the convenience of the committee a brief statement, with illustrative sketches of the plan of the terrace, was prepared last winter.

The construction of the terrace will involve no breaking up of ground or roads or walks already finished, and need cause no inconvenience to the ordinary business of the Capitol.

PROGRESS OF PLANTATIONS.

At the beginning of the year the effect of a summer of extraordinary heat and drought followed by a winter of unprecedented cold, was still marked in the condition of the plantations; with the exception of a few broad-leaved evergreens, they have since recovered and are now growing vigorously. The death of certain shrubs the present year has been traced to gas leaks, and it is to be hoped that the time is near when through the introduction of an improved economical method of electric lighting the danger attending the use of illuminating gas in planted grounds may be avoided.

The four lines of plane trees on the west of the Capitol are growing very thriftily, but are checked and given lop-sided forms by the interference of what remains of the old avenue trees they are designed to supersede.

This will be obvious on comparing the crowded trees with others of their kind not so affected. The injury is not, as yet, so great that it may not be remedied, but the final removal of the remaining old trees, nearly all of which are plainly diseased or dilapidated, should not be delayed more than another year.

The temporary loss of shade will soon be amply compensated by the overarching of the new trees.

INDEX TO TREES.

There being trees on the ground unknown to many visitors from distant parts of the country, upon a suggestion kindly made by members of Congress, labels have been placed before a large number, giving their names, and a map, index, and references prepared for the use of strangers. To further foster, meet, and lead on to more useful fields any disposition of inquiry that might occur upon the ground in respect to sylviculture, especially with those having little knowledge of the subject, an explanatory account of the plantations has been added, with advice as to opportunities of fuller information. Copies of all are appended.

EXTENSION TO COURT HOUSE, WASHINGTON, D. C.

The extension to this building as authorized by the act of Congress approved February 23, 1881, is now approaching completion. The principal story for the use of the courts and offices connected therewith will be ready for occupation during the present season, and the other portions of the building will be completed during the coming winter.

THE COURT HOUSE.

As the repairs made to the old portion of this building immediately after the storm of June 27, 1881, were only such as were necessary to protect the building and its contents from further injury from storms, many repairs in the interior of the building, such as plastering, painting, &c., occasioned by the storm, were not made at that time. These repairs, together with many others, renewing and repairing heating furnaces, and repairs to tin roof of old portion of building, &c., have been made and paid for out of the appropriation of \$800 made for annual repairs to City Hall.

EXTENSION TO GOVERNMENT PRINTING OFFICE BUILDINGS AND STABLES.

In accordance with the provisions of the act approved March 30, 1881, an extension has been erected to this building 95 feet by 60 feet, four stories high, and a stable for the accommodation of twenty horses, with a shelter for wagons, at a cost within that prescribed by law. The stable, wagon sheds, and fences connected cost \$5,346.26.

BOTANIC GARDEN.

During the present year these grounds have been much improved by cutting down the mound over the "Tiber" sewer, and with the earth from the same filling the lawns to the grade required for the walks.

The heating apparatus, to which two new boilers have been added, has been put in good order for the winter and the necessary painting and reglazing has been done. The concrete walks have been extended. The buildings at the south side of Maryland avenue have been put in a good condition, principally by adding new rafters to the "rose" house and new staging in two of the other houses. Next year it will become necessary to paint the entire conservatory, as much of the iron work is now exposed to the weather.

Statement showing amounts expended from June 30, 1881, to June 30, 1882.

CAPITOL EXTENSION.

For amount of pay rolls, mechanics, laborers, &c.....	\$35,623 68
For amount of labor not on rolls, paid by vouchers.....	508 80
For amount paid for painting material.....	2,287 13
For amount paid for salary of architect.....	4,500 00
For amount paid for plumbers' and steam fitting material.....	2,452 43
For amount paid for hardware and iron.....	1,249 36
For amount paid for disbursing agent.....	1,000 00
For amount paid for lumber.....	1,324 76
For amount paid for marble and granite.....	42 76
For amount paid for freight and express charges.....	150 88
For amount paid for winding and repairing clocks.....	100 00
For amount paid for stationery.....	109 75
For amount paid for forage.....	92 00
For amount paid for fresco painting.....	2,820 00
For amount paid for nickel plating.....	90 00
For amount paid for cement, lime, brick, &c.....	1,487 30
For amount paid for brushes, soaps, sponges, &c.....	354 83
For amount paid for grate bars and castings.....	949 57
For amount paid for tile.....	389 57
For amount paid for rolled iron bars.....	1,082 74
For amount paid for photographs.....	56 56
For amount paid for miscellaneous bills.....	181 25
Amount available July 1, 1882.....	146 63

57,000 00

Amount appropriated June 16, 1881.....	\$50,000 00
Amount appropriated for Capitol and general repairs, August 15, 1882.....	2,000 00
Amount appropriated for fitting up bath rooms, July 8, 1882...	3,000 00
Amount appropriated for completion of iron shelving, file room, August 5, 1882.....	2,000 00

57,000 00

LIGHTING UNITED STATES CAPITOL AND GROUNDS.

For amount paid for pay rolls, lamplighters and superintendent of meters.....	\$4,692 50
For amount paid for gas consumed.....	23,403 23
For amount paid for electric bells and material for electric lighting.....	251 76
For amount paid for chandeliers, globes, and gas fitting.....	855 57
For amount paid for posts, lamps, and lanterns.....	360 10
For amount available July 1, 1882.....	436 84

30,000 00

Amount appropriated March 3, 1881.....	30,000 00
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CAPITOL GROUNDS.

For amount of pay rolls, mechanics, &c.....	\$31,452 95
For amount paid for labor by vouchers, not on rolls.....	481 08
For amount paid for lime, sand, and cement.....	2,177 49
For amount paid for bricks.....	663 99
For amount paid for lumber.....	683 75
For amount paid for hardware.....	321 88
For amount paid for granite and Ohio stone work.....	11,255 29
For amount paid for soil and hauling.....	464 36
For amount paid for artificial stone pavement.....	5,818 07
For amount paid for services of draughtsman.....	1,076 11
For amount paid for moving and repairing engineer's office.....	168 68
For amount paid for miscellaneous items.....	232 09
For amount paid for services of landscape architect.....	2,000 00
For amount paid for traveling expenses of landscape architect.....	217 97
For amount paid for stationery.....	24 25
For amount paid for rent of lot, engineer's office.....	30 00
For amount paid for galvanized iron pipe.....	58 70
For amount paid for plumbing material.....	112 67
For amount paid for photographic copies of grounds.....	15 00
For amount paid for painting material.....	35 40
For amount paid for manure.....	200 00
For amount paid for rubble stone.....	57 12
For amount paid for trees, shrubs, and plants.....	670 20
For amount available July 1, 1882.....	1,782 95
	<hr/>
	60,000 00
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Amount appropriated June 16, 1880.....	60,000 00

EXTENSION OF GOVERNMENT PRINTING OFFICE.

For amount expended prior to July 1, 1880.....	\$7,305 18
For amount of pay rolls.....	5,271 47
For amount of labor paid by vouchers, not on rolls.....	1,068 93
For amount for lime, sand, and cement.....	1,033 17
For amount for building stone.....	609 00
For amount for laying building stone.....	1,346 75
For amount for tin work.....	687 46
For amount for laying bricks.....	2,717 87
For amount for bricks.....	4,692 52
For amount for concreting.....	878 12
For amount for plastering and materials.....	269 28
For amount for material for plumbing and gas fitting.....	1,240 00
For amount for cut-stone work.....	609 84
For amount for painting and glazing.....	700 93
For amount for iron beams.....	8,434 20
For amount for lumber, frames, and sash.....	2,277 01
For amount for lightning rods.....	104 00
For amount for stationery.....	32 10
For amount for moving old shop.....	38 50
For amount for rent of shop.....	72 50
For amount available July 1, 1882.....	637 17
	<hr/>
	40,000 00
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Amount appropriated March 3, 1881.....	40,000 00

ENLARGING COURT-HOUSE, WASHINGTON, D. C.

For amount expended prior to July 1, 1880.....	\$8,465 39
For amount for pay-rolls.....	6,226 72
For amount for plumbing material.....	1,151 64
For amount for brick-laying.....	7,573 05
For amount for rubble-stone work.....	163 00
For amount for cut-stone work.....	16,135 32
For amount for advertising.....	22 17
For amount for plastering.....	18 00

For amount for steam-heating	\$2,000 00
For amount for transportation.....	16 00
For amount for rolled-iron beams.....	14,892 59
For amount for painting material.....	563 58
For amount for bricks.....	12,311 22
For amount for tin roofing.....	2,944 55
For amount for hardware.....	390 19
For amount for labor not on rolls paid by voucher.....	648 56
For amount for cement and sand.....	808 50
For amount for lumber.....	2,742 98
For amount available July 1, 1882	39,926 54
	<hr/>
	117,000 00

Amount appropriated February 23, 1881, \$117,000.

Very respectfully submitted.

EDWARD CLARK,
Architect United States Capitol.

APPENDIX.

INDEX TO TREES ABOUT THE CAPITOL, WITH ADVICE TO VISITORS INTERESTED IN THEM.

The interest shown by many visitors in the young growth about the Capitol and the character of the inquiries made by them is a gratifying evidence of the growing preparation of the public mind to give economic forestry its due national importance, and also of a rising disposition to study the choice of trees and methods of using them as aids to public health and comfort, and as means for the decoration of homes and the improvement of scenery.

As to citizens from all parts of the country and to visitors from abroad the Capitol is often the first and a more continuous attraction than any other in Washington, it is not surprising that its small plantations should receive more than their due share of attention relatively to other expositions of silviculture near by. It is for this reason desired not only that such information about them as is more commonly wanted may be made readily attainable and that misleading impressions of the purposes they are meant to serve may be guarded against, but that visitors may be advised of

THE ADVANTAGES OTHERWISE OFFERED IN WASHINGTON FOR THE STUDY AND THE ENJOYMENT OF TREES.

The climate of Washington is subject to great extremes of heat and cold, dampness and dryness, but, for some not clearly established reasons, it seems to admit of an unusual range of vegetation, and allows of the growth in a more or less vigorous or depressed way of numerous woody plants not known far to the northward, and of some not common to the southward, except at considerable elevations. It is hospitable, also, to a larger number of foreign trees than the climate of most other parts of the country.

The Capitol ground is not planted with the least purpose to show what is possible in either respect; the aim in the larger part of it has been to avoid exciting interest through the exhibition of strange qualities in trees, especially of such as might be suggestive of unnatural or forced conditions, or of stratagems of horticulture, nor have the trees to be found in it been given position with a view to conspicuously presenting their individual qualities; rather, for reasons that will be later given, it has been designed to obscure these.

But, as visitors to the Capitol often find trees that happen to be new to them, and about which they wish to be better informed, labels have been placed before a large number, giving names under which inquiries can be made. With these as memoranda, and such other facilities as are supplied by the maps and tables herewith, it is hoped that the Capitol ground may serve to many as an introduction to such better opportunities as are offered in the city, there being few trees within it of which more instructive, because older, examples are not to be seen near by and better exhibited because planted with the design of exhibition.

The several government plantations in which they may be looked for are unfortunately divided, fragmentary, and, each by itself, incomprehensive and incomplete,

thus marking the result of sporadic and unsustained legislative efforts, and even of efforts in some cases a little at cross purposes one with another. Yet, taken together and with the natural growths accidentally available to supplement them, these plantations promise to be of no little value with respect to the long course of patient study upon which the infant science of American forestry has yet to be brought up. Young as they are, no where else in the country can as wide a range of trees be found equally advanced, and this is of the more national value because of the close dependence of the science of forestry upon that of meteorology and the fact that nowhere else in the country are as full, accurate, precise, and scientifically collated local meteorological records accessible as in Washington.

Of the government plantations referred to, that of the National Botanic Garden adjoining the Capitol ground on the west. Its germ was a collection made by the Wilkes Exploring Expedition in 1842, of which but one hardy tree remains alive, an invalid Jujube (*Zizyphus*). The site was and is unsuitable and inadequate for the purpose, and the curator has had and still has to contend with obstacles of many kinds, the deadliest being a lack of intelligent public interest in the scientific objects of a botanic garden, and an excess of interest in its adventitious and recreative incidents.

Among the exposed trees, visitors from the North may be glad to have their attention called to those named below.*

The Botanic Garden is managed directly by Congress through its Library Committee.†

Half a mile westward is another national collection, managed by the Agricultural Bureau of the Department of the Interior. It includes several hundred sorts of hardy trees and shrubs, most of which were planted between 1865 and 1870. The trees cannot yet, of course, begin to exhibit their mature character, but they are well grown for their age and generally of excellent promise, forming the most instructive collection in the country. As the first step toward a national forestry system it must be regretted that the bureau could not have been allowed more space and means. In twenty years, if thrifty, the trees will in many cases be crowding one another. An official list of the trees can be procured. The curator is Mr. William Saunders.

The ground between the botanic and the agricultural collections, originally planned during the administration of the elder President Adams as a public promenade, under the name of "The Mall," but neglected, and its design gradually lost sight of, is now provisionally divided into two widely different plantations. That nearest the Capitol was laid out and planted between 1872 and 1878, by Orville Babcock, colonel of military engineers. It consists of small sections of mixed forestry, with borders of shrubbery framed within formal lines of standard trees, the different sections separated in one direction by straight streets retained from the earlier design, and in the other by roads of formal curvature with decorative planting near the junctions. The surface is generally low, the soil better than that of the other grounds, the trees at present well cared for, and, except a few conifers, the removal of which will be a gain, of promising appearance. They are under the office of the Commissioner of Buildings, attached to the Executive Mansion, at present Colonel A. F. Rockwell, U. S. A.

West of Colonel Babcock's work is what has been called the Smithsonian Park, but though originating in the impulse to which the founding of the Institution of that name gave rise, and contiguous to its building, it has unfortunately never been under the same enlightened management. It should have special and reverent attention, as representing the only essay, strictly speaking, yet made under our government in landscape gardening, for though the aim of the Capitol ground planting is more than decorative, it is necessarily too prim and niggling, and is too much controlled by engineering and architectural considerations to be entitled to that full rank. This of the Smithsonian was the last and the only important public work of Downing, who was not only a master of the art, but distinctly a man of genius, of whom his country should always be proud. It was designed as a composition of natu-

*The Bull Bay, or great evergreen Magnolia of the South (*Magnolia grandiflora*): the Pecan (*Carya oliviformis*): the Whahoo (*Ulmus alata*): the Black Maple (*Acer saccharinum nigrum*), a variety of the sugar maple growing better in the South than the common Northern kind: good sized specimens of the Colchican Maple (*Acer colehicum*), from Armenia: the Pride of China, the common avenue tree of the cotton States (*Melia azedarach*): the Asiatic nettle tree (*Celtis orientalis*): the Cedar of Lebanon (*Cedrus Libani*): the Cedar of Mount Atlas (*C. Atlantica*): the Cedar of the Sierras (*Libocedrus decurrens*): Christ's Thorn (*Zizyphus vulgaris*): European and Japanese Yews (*Taxus baccata stricta*): and *T. adpressa* and *Podocarpus taxifolia*; the Chinese Water Pine (*Glyptostrobus sinensis*): the Soapberry (*Sapindus marginata*): and *Sterculia platifolia*.

† "A library filled with volumes written by Nature, and which those who have learned the language of Nature can read and enjoy with a satisfaction as much keener than anything that man-made books can give as it is nearer to the source of all truth."—L. F. Ward, Bulletin of the National Museum, No. 22.

ral scenery appropriate to be associated with a national seat of learning, and was regarded by him as the first step in a scheme of planting to be extended in one connected design to the White House and the Potomac. Upon Downing's untimely death, in 1852, the larger design was suspended, gradually lost sight of, and the ground has since been in considerable part laid out under successive acts of Congress by parcels, with a variety of local motives, none of which have as yet been fully realized. As to that actually planted under Downing's instructions, those to whom he gave them soon dropped off: neglect and ill-usage followed; it is in parts stuffy and crowded, and in others run down and poverty-stricken, but in no other planted ground near Washington is there, or does there promise to be, any tree beauty to compare with what has been already attained in it.

Under its shades government has allowed a modest memorial of the artist to be placed by private subscription. Nowhere will a monument be found commemorating a riper fruit of the Republic, more honorable aspirations, or devotion to a higher standard of patriotic duty.

Near the Agricultural ground there is an interesting collection of hardy aquatic plants in the inclosure of the Government Fish Commission, and in adjoining buildings of the Smithsonian Institution and National Museum there are collections of woods and of tree products and of fossil woods and plants.

The public streets of Washington have been planted, mainly between 1870 and 1880, with upwards of fifty thousand (56,000) trees of twenty different sorts. A list showing where rows of each may be observed can be found in the report of the Parking Commission. Though a considerable proportion are of quick-growing kinds, to which most experts object as too straggling in mature habit, too fragile, liable to accident, and short-lived, and though the amount and quality of soil provided is seldom adequate to a long-continued vigorous growth, the work on the whole is the best and most instructive example of town-planting to be seen on the continent. If well followed up in the care of the trees, the results will give Washington a distinction among the capital towns of the world—a distinction original, representative, and historic; natural, racy of the soil, congenial with the climate, in unquestionable good taste, indisputably excellent and admirable: little of which can be claimed of the results of most outlays that have been made by government for the improvement of the city.

The work thus far has been done with even over-strained economy, under the unbroken superintendence of three professional tree-masters, William R. Smith, curator of the Botanic Garden, William Saunders, of the Agricultural Tree Collection, and John Saul, who, under Downing, thirty years ago, planted the Smithsonian Park, of either of whom information may be obtained, and to whom thanks for a service to the nation, as yet too little appreciated, may well be given.

In the woods of natural growth about Washington, many sorts of trees may be found that are not indigenous in the extreme north. Among them there is the Liquid Amber or Sweet Gum (*L. styraciflua*); the Willow Oak (*Quercus Phellos*); the Laurel Oak (*Quercus imbricaria*); the Persimmon (*Diospyros Virginiana*); the American Holly (*Ilex opaca*); the Black Walnut (*Ingans nigra*); the Swamp Magnolia (*M. glauca*); the Red Birch (*Betula nigra*), (a strikingly rustic beauty of extreme grace, as commonly observed on water banks hereabouts); and the Catalpa (*C. bignonioides*).

The first two may be found in low grounds, often in association with the Tupelo or Sour Gum (*Nyssa multiflora*); the White Ash (*Fraxinus Americana*); the Scarlet Maple (*Acer rubrum*); the Scarlet Oak (*Q. coccinea*); the Sassafras (*S. officinale*), which, rarely seen except as a shrub in the far north, is here a stout and lofty tree, richly furnished, very sportive in its forms of foliage, and often excelling all other deciduous trees in picturesqueness; and the Dogwood (*Comus florida*), growing with a dense spreading head to a height of thirty feet. These, with other cornels, several of the shrubby sumacs (*Rhus*), the Climbing Sumac (*R. toxicodendron*), Bitter Sweet (*Celastrus scandens*), and Virginia Creeper (*Ampelopsis quinquefolia*), all being remarkable for their autumnal tints, and each in a different way, form combinations novel and delightful to the northern eye. In a favorable season, near the fall of the leaf, visitors from over sea will nowhere find a more gorgeous sylvan spectacle than is thus presented within a mile of the city, and this without a stroke of intentional aid from any human hand. The effect is often augmented by lower growths than any that have been named, as of huckleberries and brambles, by bright fruits and haws, and by golden and purple blooms of herbaceous plants.

Of trees to which Europeans may like to have their attention directed, in addition to those already named, there are growing wild, and of frequent occurrence, two American Elms; the Black Cherry (*Prunus serotina*), different examples of which vary much, but often a remarkably elegant and graceful tree, near Washington; the American Beech (*Fagus ferruginia*), a neater and more delicate tree than the European; the Tulip (*Liriodendron tulipiflua*), growing to great height and in perfection; the Chestnut (*Castanea vesca Americana*), always, when well grown, a noble tree, but when early in June in bloom, the most glorious object of our woods; the Hickories (*Carya*): the Butternut (*Ingans cinerea*); and eighteen (indigenous) sorts of oaks, at

the head of which the White Oak (*Q. alba*) is, under favorable conditions, fully as noble a monarch of the forest as its European brother, the Sacred Oak of the Druids (*Q. pedunculata*). Yet, perhaps, for broad landscape values others are of more consequence, and of these some, from their more feminine beauty, reward close observation also. The best scenery about Washington depends for its character chiefly on oaks. The Capitol ground has good examples of several (see list appended), of which the best were grown from acorns upon it or in the adjoining Botanic Garden. The largest, standing alone on the turf northeast of the Washington elm, was transplanted from a distance when eighteen inches in diameter.

A number of shrubs, known only as garden plants in the North, grow wild in profusion about Washington, the most striking and beautiful, both in leaf and flower, being the Virginia Fringe-tree (*Chionanthus Virginica*). This, with the Silver Bell (*Halesia tetraptera*), and the Virgilia or Yellowwood (*Cladostri tinctoria*), may often be seen in the form of small trees, the last two attaining a height occasionally of 30 feet or more, with graceful forms, and light and delicate spray and leafage. The Chinquapin or Dwarf Chestnut (*Castanea pumila*), also grows naturally about Washington.

Other small trees and bushes, all more or less planted now in Europe, but which foreigners may like to see in their native wild state, and which are common, are the Shad bush (*Amelanchier Canadensis*), a small tree of great refinement of aspect; the American Witch Hazel (*Hammamelis Canadensis*); several Viburnums and Huckleberries and the Spice bush (*Lindera benzoin*). Wild grapes and Trumpet-creeper (*Bignonia radicans*) are also common, and both often lend a charm to situations that would otherwise be the reverse of attractive.

Such situations are unfortunately common near Washington, because mainly so much of the land has been ravaged of its natural fertility by a reckless agriculture, and because, when once cleared of its primeval vegetation, it does not, as it might further north, become naturally clothed by any form of turf or other close-knitting, surface-rooting growth, and is, in consequence, subject to be kept raw and gullied by the action of frost and rains.

Under these circumstances, whatever charm there might otherwise be in the landscapes is often wholly destroyed by foreground conditions of repulsive rawness and shabbiness. In most parts of Europe, not naturally turfey, such land would be systematically planted with trees. Here, with the relatively high market value of money for various other forms of commercial enterprise, such a use of it has not yet been proved profitable. It may be observed, also, that no plants are here indigenous like heather, gorse, or broom, such as in Europe often give a picturesque and at times exceedingly lovely aspect to sterile situations, otherwise of forbidding character. It is not certain that these plants might not be naturalized (a few plants of broom of several years happy growth may be seen in the Capitol ground). It is highly probable that the native American ally of the broom, called Woadwaxen (*Genista tinctoria*), found in a few localities to the northward, if introduced, would serve their purpose. But at present woody vines of various sorts are chiefly of value in this respect, and of this value an admirable illustration may be observed in Mr. Saul's nursery, where a large extent of caving banks on the border of a small stream, occasionally becoming a torrent, have been made within a few years the most agreeable feature of the local scenery, the few plants of Japanese (sub-evergreen) honeysuckle (*Louiceera brachipoda*), originally set, having spread with the greatest profusion, so that in June there are acres of ground over which the air is loaded with the delicious perfume of their bloom. A characteristic exhibition of the same plant may be seen south of the summer-house on the Capitol ground, and near it a variety of plants adapted to dress rough ground unfit for turf. Among the best of these is the Saint John's wort (*Hypericum*), of which several species are native to the region.

The Red Cedar (*Juniperus Virginiana*), near Washington, generally assumes a form so different from that common in many parts of the north that it may pass unrecognized and an effect, distantly recalling one much beloved by Turner and seen in most of his landscapes of southern Europe, sometimes occurs (on the hills north of the reform school on the eastern road to Bladensburg Spa, for example), the horizontal strata of the Italian Stone Pine being represented by the Yellow Pine (*Pinus mitis*), and the fastigate Cypress by the form referred to of the Red Cedar.

Two short excursions may be recommended to the visitor wishing to cursorily observe the general character of the natural forest. One through the romantic woods of Rock Creek, best made on foot or in the saddle, taking by the way the government property of the Soldiers' Home, which contains many introduced coniferous trees of about thirty years' growth. The other by rowing on the Potomac, above West Washington, where boats for the purpose can be had. This offers a pleasing illustration of closely-wooded American river-side scenery, large in general outline and mass, with considerable picturesqueness of detail under the shadow of moderately well-grown forest trees. It is much resorted to and somewhat misused and damaged by boating and picnic parties. It is hard that in the interest of posterity these two sylvan treasures of the capital, the wooded declivities of the Upper Potomac and the wilds of

Rock Creek, cannot in some way be protected against the destructiveness which the hope of the smallest private pecuniary profit is liable at any moment to bring upon them. Samples may be already found of the hateful desert which may be thus quickly substituted.

The scope of the foregoing advice has been limited to trees and woody plants. Those who wish to have a more extended list of what may be looked for, as well as all interested, whether as botanists or as lovers of nature in local, annual, perennial plants, will find the best of aid in a government publication prepared by Mr. Lester F. Ward, of the Smithsonian Institution (Guide to the Flora of Washington—Bulletin No. 22, of the National Museum).

Of the banks of the Potomac above referred to, Mr. Ward says: "The beauty of their natural flower-gardens in the months of April and May is unequalled in my experience." Elsewhere he states that fifty several sorts of plants may usually be found in flower before the 1st of April (p. 31), that is to say, before, in the latitude of Albany, the ground may be unlocked from ice.

HISTORICAL NOTES OF THE CAPITOL GROUND.

The intelligent visitor, reflecting that it is nearly ninety years since the site of the Capitol was determined, and more than eighty since Congress first held its sessions upon it, will need some explanation of its present sylvan juvenility.

Since building work first began upon it several efforts for the improvement of the ground have been made before the present, but no plan for the purpose has long been adhered to, and little of the work done has been adapted to secure lastingly satisfactory results. There is, mainly in consequence of a wavering policy and make-shift temporizing operations, but one tree on the ground that yet approaches a condition of tree majesty, and beside it probably not one of fifty years' growth from the seed—not a dozen of ten years' healthy, thrifty, and unmutilated growth. It may be added that many hundred trees are known to have been planted in the streets of the city early in the century, of which not one remains alive, nor is it probable that one was ever allowed a full development of its proper beauty. Yet, to show what easily might have been, if due judgment and painstaking had been used, it is enough that one planted tree of even an earlier date may be pointed to, which is yet in the full vigor of its growth. (The "Washington elm" on the Capitol ground, originally a street side tree.)

The following notes, chiefly upon the past misfortunes of the nation in its Capitol ground, have been largely based on conversations with the late venerable Dr. J. B. Blake, sometime Commissioner of Public Grounds.

When government, near the close of the last century, took possession of the site of the Capitol, it was a sterile place, partly overgrown with "scrub oak." The soil was described (by Oliver Wolcott) as an "*exceedingly stiff* clay, becoming dust in dry and mortar in rainy weather." For a number of years the ground about the Capitol was treated as a common, roads crossing it in all directions, and a map of the period indicates an intention to treat it permanently as an open public place. The year before his death, Washington built the brick house, still standing prominently, but injured by recent additions, a little to the north of the Capitol. A picture showing this house, with a young plantation of trees (none now living) between it and the Capitol, together with an autograph letter about it from Washington to his business agent, may be seen in the Towner division of the National Library. The first local improvement ordered by Congress, after occupying the rooms partially prepared for it in the incomplete Capitol, was a *walk* to be made between these and Georgetown (West Washington), where, there being yet no comfortable houses nearer, most of the members lodged. The Capitol and the house of Washington had both been built upon the assumption that the future city, which Washington avoided calling by his own name, continuing to use the original designation of the "Federal City," would arise on the higher ground to the eastward. Both buildings were expected to stand as far as practicable in its outskirts, backing upon the turbid creek with swampy borders which then flowed along the base of the Capitol Hill. When this stream was in freshet it was not fordable, and members of Congress were often compelled to hitch their riding horses on the further side and cross it, first, on fallen trees, afterwards on a foot-bridge. There was an alder swamp where the Botanic Garden is now, which spread also far along the site of Pennsylvania avenue. Tall woods on its border shut off the views of the ground south and west of it. This wood, said to contain many noble trees, mostly oaks, was felled for fire-wood, by permission of Congress, as a measure of economy, sometime after the war of 1812.

These circumstances may give a little clue to the habit at the outset adopted, and of which Congress has since never been wholly disembarassed, of regarding the ground

immediately to the west of the Capitol as its "back yard," and all in connection with it as comparatively ignoble. With the city on the west, the transformation of the creek and swamp, and the opening of the magnificent view on that side, it is incomparably the nobler front.

It is a tradition, and is probable, that Washington, while building his brick house, planted some trees on the east side of the Capitol, of which the elm above referred to was one, and is the only one remaining. Another of equal age, but rotting prematurely, probably from unskillful or neglected pruning, was blown down a few years ago, and a third was removed in consequence of the enlargement of the Capitol. The last was a tree of graceful habit, and Mr. Smith, of the Botanic Garden, has distributed, through members of Congress, many rooted cuttings of it to different parts of the country. The surviving tree, having a girth of but ten feet at four feet from the ground, has been of slow growth, and been badly wounded within twenty years, three cavities showing the removal of considerable limbs by barbarous excision. On the east side a strip of bark, the entire length of the trunk, has been torn off. The ground, at a little distance on three sides, having been trenched and enriched, and that nearer the trunk forked over and top-dressed, the tree has, within three years, gained greatly in health and vigor; its wounds are closing over, and it may yet out-live several generations of men.

Some years after the death of Washington a space of ground nearly half as large as the present ground was inclosed in connection with the Capitol, and a street laid out around it. The Washington elm stands near where this bounding street intersected another which formed the northern approach to the Capitol, and on the opposite side, to the north, an inn of some celebrity, long known as the "Yellow Tavern," was built. This was the dining place for members still lodging at a distance.

Whatever improvement had been made upon the original ground before the burning of the Capitol in 1814 was probably then, or during the subsequent building operations, wholly laid waste, the three or four trees first planted alone escaping.

In 1825 another plan for laying out the grounds was devised, which was sustained in the main for nearly fifteen years, during most of which period John Foy had charge, and, as far as he was allowed, pursued the ends had in view in its adoption consistently. It was that of an enlarged form of the ordinary village-door yards of the time, flat, rectangular "grass plats," bordered by rows of trees, flower-beds, and gravel walks, with a belt of close planting on the outside of all. So long as the trees were saplings and the turf and flowers could be kept nicely, it was pretty and becoming. But as the trees grew they robbed and dried out the flower-beds, leaving hardly any thing to flourish in them but violets and periwinkle. Weeds came in, and the grass, becoming sparse and uneven, was much tracked across, and grew forlorn and untidy; appropriations were irregular and insufficient to restore it or supply proper nourishment. Foy was superseded for political reasons, and his successor had other gardening ambitions to gratify.

At this time, though even some years later, George Combe described the city as "a straggling village, reared in a drained swamp;" it had become clear that it was not to grow up on the east front of the Capitol. John Quincy Adams, on retiring from the Presidency, had, like Washington, determined to build a town house for himself in Washington, and had chosen to do so far to the west. Much other private building had followed, including one large and excellent hotel, and government had undertaken several important public buildings in the same quarter.

It was then determined to make an addition (about seven acres), and considerable improvement of the premises in the "rear" of the Capitol, and this improvement led on, without any special act of Congress, to a gradual change of motive in the management of the old ground on the east, under the management of James Maher, who is described by his friends as a jovial and witty Irishman, owing his appointment to the personal friendship of General Jackson.*

The soil at the foot of the hill was much better than that of the east ground; but the trees planted by Maher were chiefly silver poplars and silver maples, brittle and short-lived. After doing more or less injury to the more valuable sorts, they have all now disappeared, but there remain of the planting of this period several fine occidental planes, scarlet maples, horse-chestnuts, a pecan, and a holly.

South of the "Washington elm," adjoining the east court of the Capitol, there are a dozen long-stemmed trees, relics of two circular plantations introduced in the midst of Foy's largest "grass plats," by Maher, for "barbaec groves," one probably intended for Democratic the other for Whig jollifications. These were also largely of quick-

The following story is repeated from the best authority: The President once sent for Maher and said: "I am your friend, Jimmy, but I have often warned you, and this time I must turn you out." "Why, what's the matter now, General?" "I am told that you had a bad drunk again yesterday." "Why, now, General, if every bad story that's told against yourself was to be believed, would it be you that would be putting me in and putting me out?" He remained with another warning.

growing trees, closely planted, poorly fed, and never properly thinned or pruned. Forty years after their planting the larger number of those remaining alive were found feeble, top heavy, and ill grown.

Foy had planted in his outer belts some garden-like trees, very suitable to his purpose, magnolias, tree-boxes, hollies, and also some conifers, mostly thuyas, it is believed, but among them there was at least one Cedar of Lebanon. With them, however, or subsequently, more rapid growing deciduous trees unfortunately were also planted, and through neglect of thinning, the effect of drip and exhaustion of the soil the choicer sorts were nearly all smothered, starved, or sickened. A few crippled hollies (*Ilex opaca*) only remain. The violets and periwinkle (*Viola*) now on the ground are largely of direct descent from those planted by Foy.

Most other trees within the limits of the Capitol inclosure before the enlargement of the Capitol in 1857 were removed to make way for the new building operations, or in consequence of the changes required in the grade of the ground to adapt it to the new work, or, later, to the grading done by the District government of the adjoining streets. It was found that the roots of most of the old trees, after having grown out of the small pits in which they were planted, had been unable to penetrate the clay around them, but had pushed upward and outward, spreading upon its surface and within a thin stratum of looser and darker material, consisting, it is believed, almost entirely of street sweepings which had at different times been laid on as a top-dressing. Though none were half-grown, nearly all had the characteristics of old age, many were rotten at the butt, and few were wholly sound. The more thrifty and manageable of them were retransplanted in 1875, and under more favorable conditions, presently to be stated, the larger part of them now appear rejuvenated. When moved they were generally from 8 to 15 inches in diameter of trunk.

Except under the "barbæe trees" the entire ground east of the Capitol, and all that newly planted in the west, has been regraded. Near the eastern boundary the old surface was eight feet higher than at present; the Capitol standing at the foot of a long slope. The revised grade having been attained, the ground was thoroughly drained with collared, cylindrical tile, and trench-plowed and subsoiled to a depth of two feet or more from the present surface. (In the outer parts where evergreen thickets under scattered deciduous trees were to be attempted, fully three feet, and here the liming was omitted.) It was then ridged up and exposed to a winter's frost, dressed with oyster-shell lime, and with swamp muck previously treated with salt and lime, then plowed, harrowed, and rolled and plowed again. The old surface soil was laid upon this improved subsoil with a sufficient addition of the same poor soil drawn from without the ground to make the stratum one foot (loose) in depth. With this well pulverized, a compost of stable manure and prepared swamp muck was mixed. It is still found to have too much of the quality ascribed to the original by Wolcott, quickly drying very hard. It would seem, however, to be wholesome and sufficiently friable for the growth of the trees planted; the death of all the few that have failed being reasonably attributed to gas leaks, severe wounds, or to extraordinary cold, or to a severe attack of vermin before their recovery from the shock of removal. It is hoped that the more northern trees have been induced to root so deeply as to suffer less than they usually do in Washington during periods of extreme heat and drought, and that, in view of the thorough preparation and large outlay for the purpose, the methods of administration will hereafter be more continuously favorable than they had been for the longevity of the trees and their attaining the proper full stature of their families.

THE PRESENT DESIGN.

Questions why, in the present scheme, certain trees and plants have been taken for the Capitol ground and others neglected, and why certain dispositions of trees have been made and others, offering obvious advantages in some respects, avoided, may be best answered in a general way by a relation of the leading motives of the design, some of which it is evident do not spontaneously occur to many inquirers.

The ground is in design part of the Capitol, but in all respects subsidiary to the central structure. The primary motives of its design are, therefore, that, first, of convenience of business of and with Congress and the Supreme Court, and, second, that of supporting and presenting to advantage a great national monument.

The problem of convenience to be met in the plan of the ground lay in the requirement to supply ready access to the different entrances to the building from the twenty-one streets by which the boundary of the ground, was to be reached from the city. The number of foot and of carriage entrances is forty-six, and, as the entire space to be crossed between these and the open court and the terrace, upon which doors of the Capitol open, is but forty-six acres in extent, it had to be cut up so much as to put ordinary landscape gardening ideals of breadth and repose of surface, applicable to a

park or private residence grounds, to a great degree out of the question. The difficulty was complicated by the hillside position of the building, compelling circuitous courses to be taken as a means of avoiding oversteep grades in the carriage approaches from the west.*

That the Capitol, in its several more admirable aspects, might be happily presented to view, it was necessary that the plantations should be so disposed as to leave numerous clear spaces between the central and the outer parts of the ground, and desirable that the openings or vistas should be disturbed as little as practicable by roads or other constructions. At the same time, the summer climate of Washington and the glaring whiteness of the great central mass made a general umbrageousness of character desirable in the ground, and a bare, bald, unfurnished quality to be, as much as possible, guarded against. It was then to be considered that customs are established that bring at intervals great processions and ceremonious assemblies into the ground, and that attending these, vast bodies of people, without order or discipline, surge through it in a manner that overrules all ordinary guardianship, and that, with increasing population and increasing means of communication, such throngs are likely to grow larger and more sweeping. This difficulty was increased by the long-established habit of regarding the Capitol ground as a common to be crossed or occupied in any part as suited individual convenience.

These considerations not only called for multiplied routes of passage, but for a degree of amplitude in pavements and flagging unfortunate with reference to the desired general effect of umbrageousness and verdancy. They also compelled a resort to many expedients for inoffensively restraining the movements of visitors in certain directions and leading them easily in others.

If these several more or less conflicting requirements are weighed, it will be seen that no attempt to reconcile them or compromise between them could be made that did not involve a disjointedness in the plantations unfavorable to the general aspect of dignity and composure desirable to be associated with so stately a building. Hence, where it remained permissible to plant trees at all, to have selected and arranged them with a view to exhibit marked individual qualities, would, as tending to increase such disjointedness, have been an unwise policy. The better motive was to select and place trees with a view to their growing together in groups in which their individual qualities would gradually merge harmoniously; to avoid a distinct definition of these groups, to aim to draw them into broader compositions, and to secure as much effect of depth and distance as possible by obscuring minor objects, especially in the outer part of the ground.

In the undergrowth, however, a degree of variety, cheerfulness, and vivacity, to be gained by moderate contrasts of form and color, might be studied. Hence not only the amount but the range of shrubbery used has been considerable, so much so that it must be admitted that at present it holds attention too much. As beyond a certain point the landscape effect of trees increases with age many times faster than that of bushes, the general effect will soon be much quieter. The chief reason for what would otherwise be an excessive proportion of shrubs and low growth is the necessity of mitigating the effect of the large extent of dead ground in the roads, walks, and adjoining streets, otherwise to be looked down upon from the Capitol and to be conspicuous in views across the ground.

Two minor motives influencing the choice and disposition of the undergrowth may be noted.

The summer climate of Washington being unfavorable to turf in situations where, owing to the number of trees growing in them, or for other reasons, the care of the turf would be difficult, the aim has been to cover the ground with foliage of creepers, and of low perennials likely to retain greenness during droughts and requiring little labor to keep tidy. These low plantings also serve the purpose of connecting and merging the higher foliage with the verdure of the lawns and of increasing apparent perspective distance.

The shrubbery has been selected from regard to its fitness in foliage qualities, form, and size, when grown, to serve general purposes in the several localities in which it is placed. Its blooming qualities have been regarded as of subordinate consequence, but simple and natural bloom has been generally preferred to the more large, striking, and showy quality of flowers resulting from the art of the florist, the design being always not to make a lounging place or hold attention to details.

* Some may ask whether, under the circumstances, a strictly architectural design would not have had advantages. It is enough to say that, for several reasons, no such plan, if understood, would have been acceptable to Congress or the public taste of the period. It would, therefore, have soon been ruined in the treatment of details. Public taste strangely admits topiary work to be mixed up with natural forms of vegetation, and applauds a profusion of artificial features in what passes for natural gardening. Nevertheless, it condemns, even in situations where they would be most pardonable, the grander and more essential aims of ancient gardening.

No spruces or other large-growing coniferous trees have been included in the recent planting, because if placed in the central parts they would obstruct views of the buildings; if placed on the outer parts they would disturb the general quiet and unobtrusive foliage effects desired, and lessen the apparent depth of the local sylvan scene. A few clusters of junipers, yews, and thuyas (*Chamaecyparis*), of established hardiness, will be found at points where they cannot interrupt views toward the Capitol, and where they will be obscured and overlooked in views from it.

The number of broad-leaved (laurel-like) evergreens that can be trusted to flourish in the climate of Washington is unfortunately limited. The fact that the ground is more visited in winter than in summer makes this the more regrettable. For this reason a considerable number of sorts have been introduced, the permanent success of which is not thought fully assured. All such are of low growth in this climate, and should they fail to meet expectations may be withdrawn without permanent injury to the designed summer landscape character. Should they flourish, it is hoped that others will be thinned out and the evergreens grow into moderate masses.*

The Capitol ground is declared by act of Congress to be formed "to serve the quiet and dignity of the Capitol and to prevent the occurrence near it of such disturbances as are incident to the ordinary use of public streets and places." Incidentally to this purpose, however, it is much used as a public park, especially during the hot season or when Congress is not in session. The need to provide seats in which people could rest for a moment in passing up the Capitol hill from Pennsylvania avenue, which is the point of entrance for most, and the need of a place in which children could obtain water being apparent, and as the necessary extent of accommodation in these respects would otherwise cause an unseemly obstruction of the walks or become too conspicuous a feature of the scenery, a summer-house was designed, with a view to the following advantages: It is entered by a few steps from three different lines of walk; it contains separate seats for twenty-five people, protected under all circumstances from ordinary summer showers; it allows six children to take water from the fountain at once; it is very airy, the softest breeze passing freely through it. The seats are so disposed as, though shadowed, to be well lighted, and to be each under constant inspection of the passing watchmen and the public through an opposite archway. The house is closed at nightfall and in winter. These precautions have enabled ladies to use it in large numbers, free from the annoyances which often deter them from entering sheltered resting places in parks. Standing on sloping ground, the floor is kept at the lower level and the walls and roof of brick and tile as low as practicable, so that at a short distance the eye ranges over them. That they may be more inconspicuous, the walls are banked about with natural rock, and slopes of specially-prepared soils favorable to the growth of various creepers and rock plants, by which, except to one standing opposite to the entrance arches and turning to observe them, the entire structure will be wholly lost to view. From within the walls there opens on the up-hill side a cool dark runnel of water, supplied from the overflow of the fountain at the west entrance to the Capitol. The spray of this rapid rivulet, with that from the waste water of the drinking-fountain, maintains a moisture of the air favorable to the growth of ferns and mosses upon the inner rock-work. What is chiefly hoped for, however, is that under the conditions provided, a growth of ivy may have been secured, gradually reproducing the characteristic exquisite beauty of this evergreen in its native haunts. Many good examples of it, though not of its best estate, may be seen about Washington. The visitor interested is particularly advised to see those in the cemetery at West Washington (Georgetown).

The trees about the summer-house, though hardy and suited to the circumstances, will all have a somewhat quaint or exotic aspect. They include the Willow oak, the Cedrella, the Oleaster, two sorts of Aalias, and the Golden Catalpa.

The vistas or general lines of view to which all the planting and all the structures upon the ground have been fitted may be more fully stated.

Disregarding shrubbery, to be kept below the plane of sight toward the Capitol, openings are maintained, through which direct front views of the central portico and the dome will be had from the outer parts of the ground, upon opposite sides, and diagonal perspective views of the entire facades from four directions. In six other directions from the center of the structure only low-headed trees are planted, so that in each case the Capitol may be seen rising above banks of foliage from points several miles distant.

It is unnecessary to say that by the same disposition of the plantations, views outwardly from the Capitol are kept open, but attention may be called to the beauty and

*The Evergreen Thorn (*Crataegus pyracanthas*), the Oregon Grape (*Berberis aquifolium*), the Cotton-easter (*C. microphylla*), the Chinese evergreen Azalea (*A. Amœna*), and an English hot-house shrub (*Abelia rupestris*), have each passed through without injury several severe summers and winters, and promise to be of the highest value for the landscape purposes for which they have been tentatively used. The three first are already to be seen in profusion and in vigorous health.

breadth, almost approaching grandeur, of the prospect up and down and across the valley of the Potomac, and to the design that when the present young plantations are full-grown this great advantage of the Capitol shall not be lost. The introduction of the proposed architectural terrace will indeed admit no trees to stand so near, or on ground so elevated, that they will even obstruct the present distant view from the main or even the ground floor. The plantations in this direction, however, will in time obscure the nearer part of the city and form a continuous strong, consistent foreground to the further sylvan slopes.

From the terrace these plantations will in some degree limit the views to the northward and southward, but through the removal of the old central avenue and the broad gap left between the trees on the west an outlook is obtained between the northern and the southern divisions of the city in which a slope of unbroken turf, seen over a strongly-defined and darkly-shadowed architectural base, will be the foreground; a wooded plain, extending a mile beyond the foot of the slope the middle distance, and the partly-overgrown, partly-cultivated hills beyond the depression of the Potomac, the background; the latter so far removed that in summer conditions of light and atmosphere it is often blue, misty, and ethereal. Because, perhaps, of the influence of the cool waters of the river passing between the dry hills from north to south across this field of vision, sunset effects are often to be enjoyed from the west face of the Capitol of a rare loveliness.

LIST OF TREES AND SHRUBS IN THE UNITED STATES CAPITOL GROUNDS.

	Habitat.
Abelia rupestris.....	China.
Acer campestre. English field maple.....	Europe.
Acer dasycarpum. Silver maple.....	Atlantic States.
Acer laetum.....	Caucasus.
Acer palmatum.....	Japan.
atropurpureum.....	Japan.
versicolor.....	Japan.
laciniata variegata.....	Japan.
rosea marginata.....	Japan.
reticulatum.....	Japan.
micranthum.....	Japan.
polycrestata.....	Japan.
Æsculus glabra. Ohio buckeye.....	Western States.
Æsculus hippocastanum. Horse-chestnut.....	Persia.
Aralia chinensis.....	Eastern Asia.
spinosa. Hercules' club.....	Atlantic States.
Amorpha fruticosa. False indigo.....	Atlantic States.
Aucuba Japonica.....	Japan.
Azalea amena.....	China.
mollis.....	Japan.
nudiflora.....	Atlantic States.
Benzoin odoriferum. Spice bush.....	Atlantic States.
Berberis aquifolium. Oregon grape.....	North Pacific States.
Fortunei.....	China.
Japonica. Japan mahonia.....	Japan.
Thunbergii.....	Japan.
vulgaris. Barberry.....	Europe.
vulgaris atropurpurea. Purple barberry.....	Hort.
Betula alba. White birch.....	North Europe.
lenta. Black birch.....	Atlantic States.
Buxus Japonica.....	Japan.
sempervirens, var. Tree box.....	Europe.
Round-leaved box.....	Hort.
Golden variegated box.....	Hort.
Narrow-leaved box.....	Hort.
Callicarpa Americana.....	South Atlantic States.
Calycanthus floridus. Sweet-scented shrub.....	South Atlantic States.
Caragana arborescens. Siberian pea.....	Siberia.
Carpinus Caroliniana. Water beech.....	Atlantic States.
Duinensis.....	Caucasus.
Carya oliviformis. Pecan nut.....	Western States.
Castanea pumila. Chinquapin.....	Southern States.
vesca. Sweet chestnut.....	Europe.
Catalpa bignonioides.....	South Atlantic States.

List of trees and shrubs in the United States Capitol Grounds—Continued.

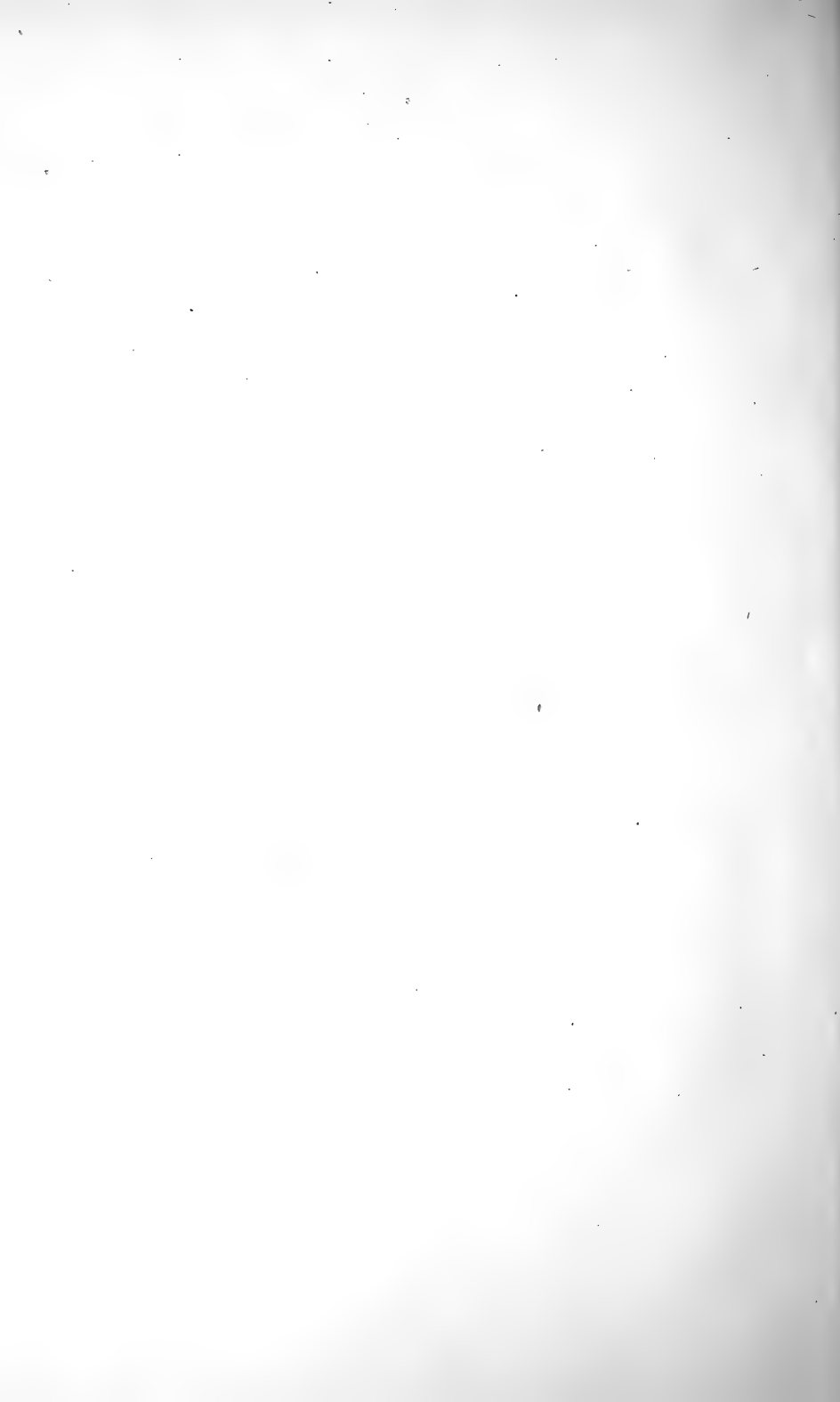
	Habitat.
Catalpa bigonoides aurea. Golden catalpa	Hort.
Bungei, var. nana. Dwarf catalpa	Hort.
Cedrella sinensis	Northern China.
Celastrus scandens. Bittersweet	Atlantic States.
Cereis canadensis. Red bud	Atlantic States.
chinensis	Eastern Asia.
Chamæcyparis obtusa. (Retinospora)	Japan.
nana. (Retinospo)	Japan.
plumosa. (Retinospora)	Japan.
squarrosa. (Retinospora)	Japan.
pisifera. (Retinospora)	Japan.
aurea. (Retinospora)	Japan.
Chionanthus Virginica. Fringe tree	South Atlantic States.
Cladrastis tinctoria. Yellowwood	Kentucky and Tennessee.
Clerodendron trichotomum	Japan.
Clethra aluifolia. White alder	Atlantic States.
Colutea arborescens. Bladder senna	Europe.
Cornus florida. Flowering dogwood	Atlantic States.
mas. Cornel	Europe.
variegata	Hort.
paniculata	North Atlantic States.
stolonifera. Red osier	Atlantic States.
stricta. Stiff cornel	Southern States.
Corylus Americanus. American hazel	Atlantic States.
tupulosa atropurpurea. Purple hazel	Europe.
Cotoneaster acuminata Simonsii	Himalayas.
microphylla	Siberia.
Cratægus Crus-galli, var. New Castle thorn	Atlantic States.
oxyacantha. Hawthorn	Europe.
var. Hawthorn	Europe.
Daphne cneorum	Europe.
Deutzia gracilis	Japan.
scabra	Japan.
flore pleu	Hort.
purpurea	Hort.
Diervilla hortensis	Japan.
alba	Hort.
nivea	Hort.
grandiflora variegata	Hort.
rosea	China.
amabilis	Hort.
foliis variegata	Hort.
grandiflora, var. Van Houttei	Hort.
Diospyros Virginiana. Persimmon	Atlantic States.
Eleagnus hortensis	Southern Europe.
Erica carnea	Europe.
polifolia	Europe.
Enonymus Americanus. Strawberry bush	Atlantic States.
atropurpureus. Burning bush	Atlantic States.
Japonicus	Japan.
variegata	Hort.
radicans	Japan.
Fagus ferruginea. American beech	Atlantic States.
sylvatica. European beech	Europe.
purpurea. Purple beech	Europe.
incisa. Cut-leaved beech	Europe.
Forsythia Fortunei	China.
suspensa	China.
vividissima	China.
Fraxinus Americana. White ash	Atlantic States.
excelsior. European ash	Europe.
Gymnocladus Canadensis. Kentucky coffee tree	Western States.
Halesia tetraptera. Silver bell	South Atlantic States.
Hedera Helix Hibernica. Irish ivy	Europe.
Hibiscus Syriacus. Althea	Syria.
Hippophæ rhamnoides. Sea buckthorn	Europe.
Hydrangea hortensea	Japan.
paniculata grandiflora	Japan.

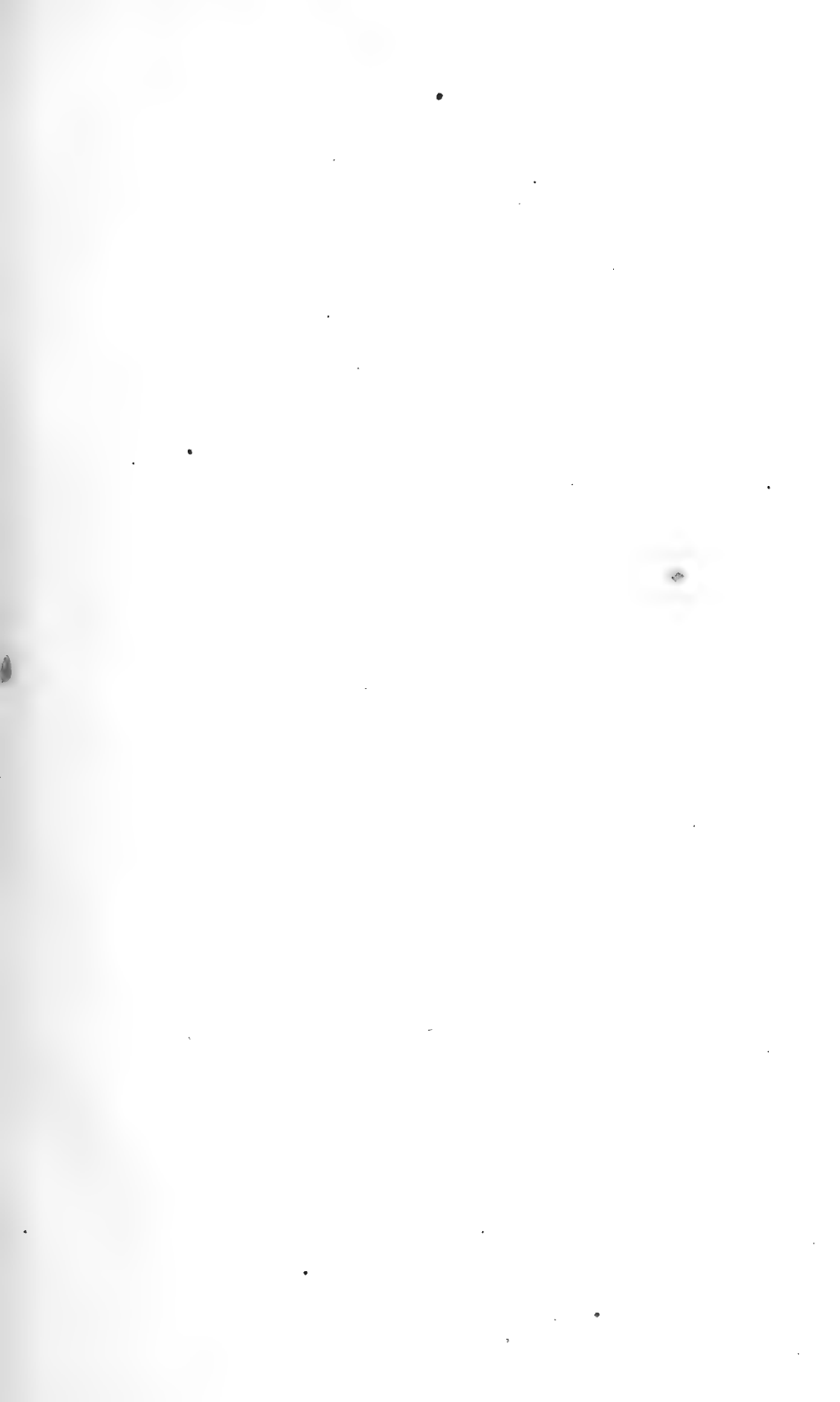
List of trees and shrubs in the United States Capitol Grounds—Continued.

	Habitat.
<i>Hypericum prolificum</i> . St. John's wort.....	Atlantic States.
<i>Idesia polycarpa</i>	Japan.
<i>Ilex aquifolium</i> . English holly.....	Europe.
<i>angustifolium</i>	Hort.
<i>ferox</i> . Hedgehog holly.....	Hort.
<i>argentea</i>	Hort.
<i>aurea</i>	Hort.
<i>opaca</i> . American holly.....	Atlantic States.
<i>Jasminum nudiflorum</i> . Yellow jessamine.....	China.
<i>Juniperus recurva squamata</i>	Nepaul.
<i>sabina</i> . Juniper.....	Northern Hemisphere.
<i>nana</i> . Prostrate juniper.....	Northern States.
<i>tamariscifolia</i>	Europe.
<i>Koelreuteria paniculata</i>	China.
<i>Laburnum vulgare</i> . Golden chain.....	Europe.
<i>Lagerstræmia Indica rubra</i> . Crepe myrtle.....	India.
<i>Ligustrum ovalifolium</i>	Japan.
<i>vulgare</i> . Privet.....	Europe.
<i>Liquidambar styraciflua</i> . Sweet gum.....	Atlantic States.
<i>Liriodendron tulipifera</i> . Tulip tree.....	Atlantic States.
<i>Lonicera brachypoda</i> . Honeysuckle.....	Japan.
<i>aurea reticulata</i>	Japan.
<i>fragrantissima</i> . Bush honeysuckle.....	China.
<i>Tartarica</i> . Tartarian honeysuckle.....	Siberia.
<i>Maclura aurantiaca</i> . Osage-orange.....	Arkansas.
<i>Magnolia acuminata</i> . Cucumber tree.....	Atlantic States.
<i>conspicua</i> . Yulan.....	China.
<i>cordata</i> . Yellow cucumber tree.....	South Atlantic States.
<i>glauca</i> . Sweet bay.....	Atlantic States.
<i>grandiflora</i> . Bull bay.....	South Atlantic States.
<i>tripelata</i> . Umbrella tree.....	South Atlantic States.
<i>purpurea</i> . Purple magnolia.....	Japan.
<i>Morus alba</i> . White mulberry.....	Europe.
<i>rubra</i> . Red mulberry.....	Atlantic States.
<i>Neillia opulifolia</i>	Atlantic States.
<i>aurea</i>	Hort.
<i>Nyssa sylvatica</i> . Sour gum.....	Atlantic States.
<i>Ostrya Virginica</i> . Hop-hornbeam.....	Atlantic States.
<i>Paulownia imperialis</i>	Japan.
<i>Phellodendron amurense</i>	Manchuria.
<i>Philadelphus coronarius</i> . Mock-orange.....	China.
<i>grandiflora</i> . Syringa.....	South Atlantic States.
<i>inodorus</i>	South Atlantic States.
<i>Pirus coronaria</i>	South Atlantic States.
<i>Japonica</i> . Japan quince.....	Japan.
<i>Planera aquatica</i> . Water elm.....	South Atlantic States.
<i>Platanus occidentalis</i> . Sycamore.....	Atlantic States.
<i>orientalis</i> . Oriental plane.....	Western Europe.
<i>Podocarpus taxifolia</i>	Japan.
<i>Populus angustifolia</i> . Willow-leaved poplar.....	Rocky Mountains.
<i>Prunus Japonica</i>	Japan.
<i>flore pleno</i>	Japan.
<i>Sinensis</i> . Sand pear.....	China.
<i>Padus</i> . Bird cherry.....	Europe.
<i>serotina</i> . Rum cherry.....	Atlantic States.
<i>spinosa</i> . Sloe.....	Europe.
<i>triloba</i>	China.
<i>Quercus alba</i> . White oak.....	Atlantic States.
<i>cerris</i> . Turkey oak.....	Europe.
<i>imbricaria</i> . Shingle oak.....	Europe.
<i>macrocarpa</i> . Bur oak.....	Atlantic States.
<i>palustris</i> . Pin oak.....	Atlantic States.
<i>phellos</i> . Willow oak.....	South Atlantic States.
<i>Prinus</i> . Chestnut oak.....	Atlantic States.
<i>prinoides</i> . Chinquapin oak.....	Atlantic States.
<i>Robur</i> . English oak.....	Europe.
<i>concordia</i>	Hort.
<i>nigricans</i>	Hort.

List of trees and shrubs in the United States Capitol Grounds—Continued.

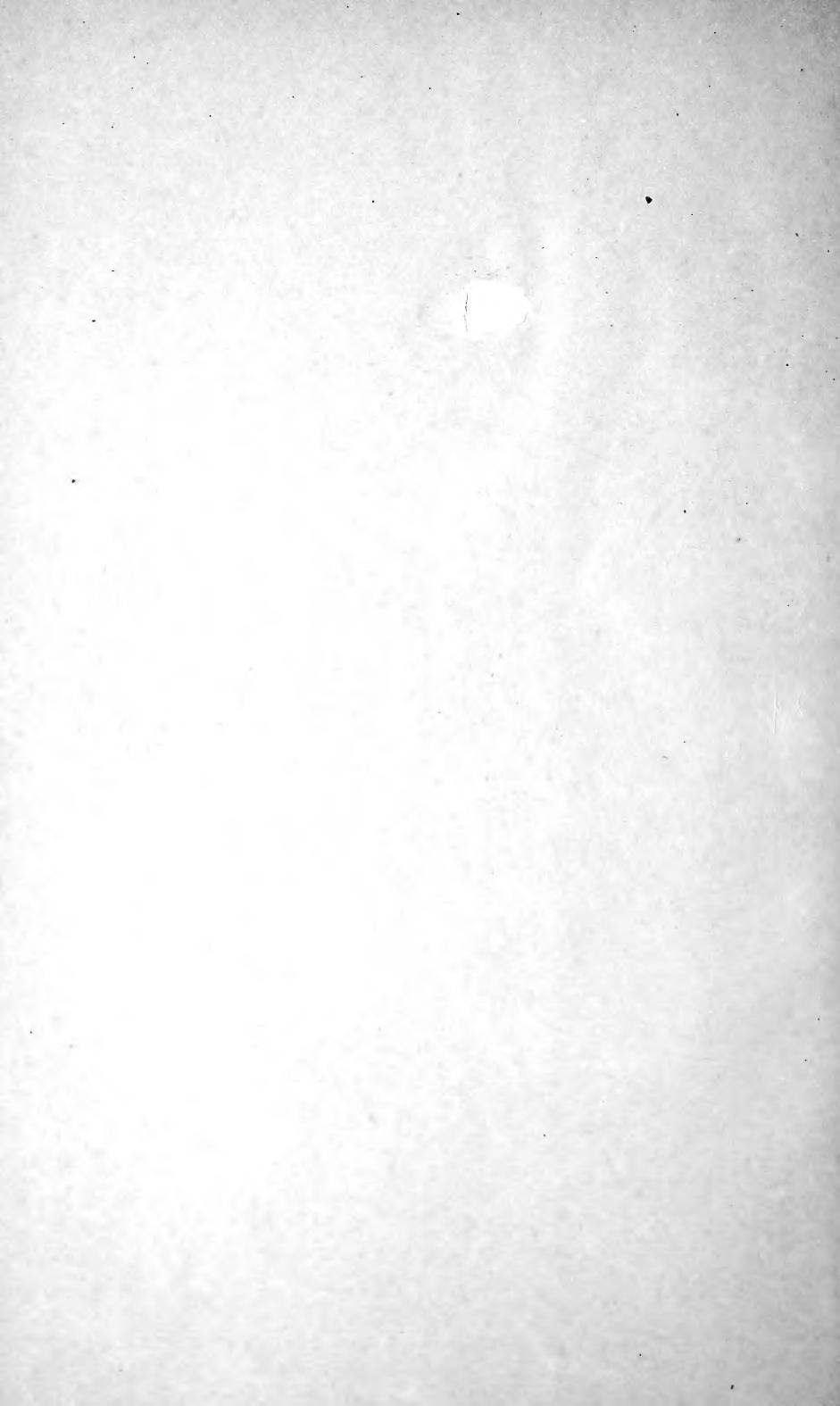
	Habitat.
Rhamnus Caroliniana	South Atlantic States.
catharticus. Buckthorn	Europe.
Rhus cotinus. Smoke bush	Southern Europe.
glabra laciniata. Cut-leaved sumac	Pennsylvania.
Rubus leucodermis	Japan.
Rosa rubiginosa. Sweet brier	Europe.
rugosa	Japan.
Salisburia biloba. Ginkgo	China.
Sambucus canadensis variegata. Variegated elder	Atlantic States.
Sassafras officinale	Atlantic States.
Shepherdia argentea. Buffalo berry	Western North America.
Sophora Japonica	Japan.
Spirea cantoniensis	China.
chamædrifolia	Siberia.
Japonica alba	Japan.
rubra	Japan.
Lindleyana	Himalayas.
Douglassii var	California.
prunifolia	Japan.
Thunbergii	Japan.
Staphylea trifolia. Bladder-nut	Atlantic States.
Styrax Japonicum	Japan.
officinale	Europe.
Symphoricarpos racemosus. Snowberry	North America.
vulgaris. Indian current	Northern States.
Syringa Josikoea	Central Europe.
Persica. Persian lilac	Western Asia.
vulgaris. Lilac	Europe.
alba. White lilac	Europe.
Tamarix Africana. Tamarisk	Southern Europe.
Taxus adpressa	Japan.
baccata. Yew	Europe.
aurea. Golden yew	Hort.
Tilia Americana. Basswood	Atlantic States.
Europea. Linden	Europe.
heterophylla. White basswood	Atlantic States.
Ulmus Americana. American elm	Atlantic States.
alata. Whahoo	Southern States.
campestris. English elm	Europe.
fastigiata. Fastigate elm	Hort.
microphylla	Hort.
pendule. Weeping elm	Hort.
Ulmus campestris purpurea. Purple elm	Hort.
var. Huntingdon elm	Hort.
Montana. Dutch elm	Europe.
Viburnum opulus. Guelder rose	Europe.
plicatum	Japan.
prunifolium	Atlantic States.
Zizyphus vulgaris. Christ's thorn	Southern Europe.











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