

SILK.

FEBRUARY 25, 1837.

Read, and laid upon the table.

Mr. ADAMS, of Massachusetts, from the Committee on Manufactures, to which the subject had been referred, made the following

REPORT:

The Committee on Manufactures, to whom, at the last session of Congress, was referred a resolution of the House, instructing them to inquire into the expediency of promoting the culture and manufacture of silk in the United States, respectfully report :

That, in fulfilment of the instruction of the House, Mr. Andrew T. Judson, of Connecticut, then a member of the House, and of the committee, was authorized and requested by the committee to continue and pursue the inquiries which, for some time before, he had already commenced, to obtain from various parts of the United States the information respecting the actual condition and prospects of those important articles of cultivation which might most effectively promote the purposes of the resolution of the House ; that those inquiries were accordingly pursued with equal perseverance and intelligence by Mr. Judson, but without his being able to complete them before the close of that session of Congress ; that, previous to that time, his services being required in another department, he resigned his seat as a member of the House.

But Mr. Judson did not, on that account, intermit or relax the researches upon which he had devoted his time and attention in relation to the cultivation and manufacture of silk. He obtained the assistance and co-operation, in the prosecution of his inquiries, of F. G. Comstock, secretary of the Hartford County Silk Society, and editor of the *Silk Culturist*, a periodical journal published at Hartford, and specially devoted to this interesting cultivation. Twenty-two numbers of this valuable work have been transmitted by Mr. Comstock to the committee, together with a practical treatise by him on the culture of silk, adapted to the soil and climate of the United States.

A letter from Mr. Judson of the 21st of January last to the chairman of the Committee on Manufactures, contains a concise summary of the information collected by him pursuant to the charge of the committee, and in furtherance of the views indicated by the resolution of the House. The chairman is instructed, by the committee, to present that letter to the House, and to move that it be received as a part of their report.

JOHN QUINCY ADAMS.

HOUSE OF REPRESENTATIVES U. S.,

February 25, 1837.

CANTERBURY, CONNECTICUT,
January 21, 1837.

SIR: Having had the honor to be a member of the Committee on Manufactures at the last session of Congress, when that committee was instructed, by a resolution of the House, "to inquire into the culture and manufacture of silk in the United States," and having been directed by the committee to make the report, I have devoted that attention to the subject which its nature, and my other duties, would allow; and now have the honor of communicating to you the result of my investigations, that it may be submitted to the members *now* composing the Committee on Manufactures.

It was my intention to have prepared a report at the last session, but the time intervening between the assignment of the duty to me, and the close of the session, rendered it utterly impracticable. The gentlemen who had engaged, and were engaging, in the business, were scattered throughout the whole extent of the country, and it was impossible to ascertain what progress they had made in the short time allotted me. The want of this information, and the suggestion of a gentleman whose time is exclusively devoted to the introduction of the business, and who kindly proffered me the use of his extensive correspondence, and the aid of his personal services, in collecting the facts during the recess, induced me to defer it till the present session. Under these circumstances, I have thought the subsequent resignation of my seat in Congress would not exonerate me from the discharge of the duty thus imposed, or furnish an apology for neglecting it. In addition to this, I was aware the brief period prescribed by the constitution for the present session would be inadequate to a thorough investigation, should the duty of preparing a report be assigned to another member of the committee, and the expectations of the House and the public must, at least for a time, be disappointed. This explanation will, I trust, exempt me from what otherwise might appear to be an officious interference with the business and duties of the committee.

It is already known to the committee, that the culture of silk has been attempted in this country at different periods of time; the principal, however, of which, fall within the last century. It would be interesting, and probably useful, to trace the history of this branch of rural economy from the first attempt to introduce it in Virginia, in 1623, by James I. to the present time; but, as it has been compiled and embodied in a manual prepared under the direction of the Secretary of the Treasury, in pursuance of a resolution of the House passed on the 11th of May, 1826, I have deemed it advisable to confine my inquiries to the present state of the culture and manufacture of silk, and the more immediate causes which have produced it.

The present state of these branches of American industry, and the interest which is so extensively felt in relation to them, owe their origin principally to the efforts of a few patriotic gentlemen of the county of Hartford, in Connecticut. In the year 1834, they formed an association under the name of the "Hartford County Silk Society," for the purpose of collecting and disseminating practical information relating to the best methods of cultivating the various species and varieties of the mulberry, and rearing the silkworm. To facilitate their operations, and open a channel of communication with the public, they immediately commenced the publication of a monthly periodical, under the significant name of "Silk Culturist and Farmers' Manual," and placed it under the editorial charge of the secretary of the society. The editor immediately entered

upon the discharge of his duties, and has since devoted his whole time and attention to the subject. The officers and members of the society, particularly the president and secretary, being practical men, and ardently devoted to the cause as a great national object, have been incessant and unwearied in their exertions to accomplish its general introduction. In their endeavors to draw the attention of the public, and particularly agriculturists, to the subject, and stimulate them to engage in it as an important and lucrative branch of rural economy, they have cautiously, and I think wisely, passed over the ingenious theories of foreign writers, and confined themselves to the results of experiments fairly and faithfully made, and the simple statement of facts. This course will approve itself to the understanding of every individual of reflection, especially when the variation of soil and climate of different countries, and the dissimilarity in the habits and pursuits of their inhabitants, are taken into consideration.

The anticipation of a sudden transition from poverty to competence, or from competence to wealth, is, of itself, a powerful incentive to embark in any new project which presents itself to the mind; but the disappointment and mortification consequent upon it, when illusory, are as painful as the success is gratifying, when real. The proneness of man to "air-castle building" needs no encouragement, but requires restraint; and the individual or individuals, who take the responsibility of recommending to the farmer a deviation from his ordinary routine of husbandry, must be careful that the advantages proposed are real rather than imaginary, or they will ultimately awaken in their own bosoms painful instead of pleasurable sensations. These principles seem to be the cardinal points in the faith of the Hartford County Silk Society, and by them the members appear to have scrupulously governed themselves, in promoting the great object of their association.

The publication of the Silk Culturist, at a merely nominal price, and on the personal responsibility of the secretary, has exerted a powerful influence in awakening a deep interest in these new branches of American enterprise. The extent of this interest may be judged of by the fact, that most of the political, commercial, and literary publications of the day, contain paragraphs urging farmers and others to engage in them, and assuring them of their practicability and profit. These show the light in which the subject is viewed by intelligent men, in different sections of the country, as a public object. The extent, also, of the interest felt by individuals in the success of the enterprise, as a source of individual wealth, may be estimated by the fact, that there are now in the office of the Silk Culturist from three to five thousand letters of inquiry, &c., in relation to it. This interest is further manifested by the fact, that several other periodicals devoted wholly and partially to the subject have been started, and are co-operating in the great work.

But notwithstanding both the public and individuals may be deeply interested in the culture and manufacture of silk, its introduction into this country may be unattainable. Our soil and climate may not be congenial to its growth, and the number, habits and pursuits of our population may not be adapted to its manufacture. These are insuperable difficulties, if they exist; and, consequently, I have given them a prominent place among the topics of investigation. The result of all my inquiries in relation to the adaptation of our soil and climate are of the most encouraging character. From all the information I have been able to obtain, I am fully satisfied that there is not a State in the Union, and perhaps I might say not a

county, where the mulberry may not be cultivated, and the silkworm reared. Experiments have been made in all parts of the country, and their success has established the fact, that the mulberry will grow, and the silkworm thrive, throughout the whole length and breadth of the United States. The rigor of northern winters has, ordinarily, no injurious effect upon the Italian mulberry; and the insect which feeds upon its foliage, and produces the silken fibre, being in a torpid state, and secluded from the frost during the cold season, sustains no injury, or even inconvenience, from its severity. It was formerly doubted whether the *morus multicaulis* could be acclimated in the northern and middle States; but late experiments have satisfactorily proved that, by cutting down the shoots in autumn, the roots will endure the coldest winters, and send up a new growth of shoots in the spring, and produce an abundant crop of foliage. This appears to be the method successfully pursued by the silk growers in India; and with the same treatment in this country, there is no doubt of its acclimation.

The introduction of this valuable variety of the mulberry, at a time when the attention of American silk growers was aroused to the subject, and the facility with which it is cultivated and multiplied to an indefinite extent, affords, in my opinion, a full guaranty against those failures and interruptions in the business to which it has heretofore been subjected. It has been ascertained by experiment, that the foliage which may be gathered from annual shoots upon an acre of land will furnish food enough to sustain a family of worms sufficiently numerous to make 128 pounds of silk, worth, at present prices, \$640. Though there is now but little doubt that, treated in this manner, the *morus multicaulis* will, in the end, supplant the Italian, yet it is adjudged advisable, by most silk growers, to continue its cultivation. Its great value for fuel and timber, especially for ship building, will ever make it worthy of cultivation; and should any unforeseen circumstance render the successful cultivation of the former uncertain, or impossible, the silk grower will be able to make silk from its foliage, of good quality, and in large quantities.

An imaginary difficulty in rearing the worm, and enabling it to make its cocoon, has been urged as a reason against attempting it; but I am happy to find that the process has been so far simplified as to be intelligible to the most unlearned in rural affairs. So simple and easy is the care and management of the worm, during its brief life of labor, that children, with a little instruction and experience, can supply all its wants, both in sickness and in health, and render it all the assistance and attention necessary to its comfort and the completion of its labors. The process of reeling, also, which was formerly supposed to be of difficult performance, has become so familiarized, that children perform it with skill and dexterity. In foreign countries, where silk is extensively grown and manufactured, the business of reeling is kept, to a great extent, distinct from the growing; but I think it desirable for every grower in this country to acquaint himself and family with the art, as the value of the silk is more easily and accurately ascertained, and is less liable to injury in transportation. Thus far, the production and manufacture of silk may be carried on in the family of every farmer, and at a profit far beyond his expectations.

From all the facts in my possession, I am satisfied that every farmer may devote a portion of his farm and attention to the growth of silk, and thereby much increase the value of its products. The gathering of the foliage, and the feeding of the worms, may be performed by the children, and such

other members of the family as are incapable of more arduous labor; and who, if not thus employed, would spend their time in idleness, or, what is worse, mischief. If productive labor is a principal source of wealth, both to nations and individuals, it is desirous it should be increased to its greatest possible extent. This can only be done by seeking out objects to which the labor of the young, old, and infirm is adapted; and, among these, I know of none more appropriate than the culture of silk. The same remarks are substantially true with respect to its manufacture.

It has also been erroneously supposed that the manufacture of silk was attended with extraordinary difficulties; that it required much complex and expensive machinery, and a skill which Americans were incapable of acquiring; but it has been found to be as simple as that of cotton or wool, and requiring a far less expenditure in buildings, machinery, and fixtures. The weaving of silk fabrics on power-looms has been attempted, and the success that has resulted from the experiment is of the most flattering character. Fabrics for gentlemen's wear, cravats, &c., have been woven on power-looms, which, for beauty of texture, fall but little, if any, below those of foreign manufacture. In this respect, we are already in advance of the silk manufacturers of Europe and India; and it is believed that the advantage the American manufacturer will derive from the aid of labor-saving machines, will more than counterbalance the advantage the foreign manufacturer does or can derive from the reduced price of labor in countries of a more dense population. Hence it is believed that this country can successfully compete with other countries, both in the culture and manufacture of silk.

The importance of introducing this species of manufacture may be estimated by the fact, that the importations of manufactured silks, during the year ending the 30th of September last, amounted to \$17,497,900, being nearly a million more than the previous year. Most of this enormous amount is consumed in this country, and is an annual tax upon the consumers. It is also to them and the country a total loss; for it is believed there are in the country a sufficient number of laborers to produce and manufacture the whole amount; who are unproductively or unprofitably employed. If this be so, it follows, as a necessary consequence, that we sustain an annual loss of double that amount in our unemployed and misapplied labor. This amount will also be astonishingly increased, if we add to it all the evils of crime and pauperism, which are the legitimate and unavoidable consequences of idleness and unproductive labor. The connexion between idleness and poverty has not, and never will be dissolved, so long as the relation between cause and effect exists; and though crime may not be a necessary concomitant, yet it is a common attendant. The same is true, though in a less degree, in regard to misapplied labor. The fruits of unproductive labor are poverty and wretchedness, and these are often the remote, if not the immediate, causes of crime. The importance, therefore, of the culture and manufacture of silk, both in a pecuniary and moral point of view, is immense.

Our independence also urges us to engage in the culture and manufacture of silk. Fabrics, of which silk is the whole, or a component part, are indispensable. In the early ages of the world, when the customs and fashion of society were rude and unpolished, silk was considered a luxury which none but princes could indulge; and even in them it was supposed to be unpardonable extravagance, for it was among the enumerated prodigali-

ties of Heliogabalus, that he had a garment made wholly of silk. The Emperor Aurelian, also, 270 years afterwards, refused his empress a silk robe, merely because he could not incur the expense. In still later times silk has been considered luxurious, for it is said of James I, before his accession to the English throne in 1603, that he was compelled to borrow a pair of silk hose of the Earl of Mar, when he first appeared before the ambassador. But the customs and habit of society have since undergone an astonishing change. Silk is no longer considered a luxury, but an indispensable article. So common has it become, that it forms a considerable part of our wardrobes, and enters more or less into almost every garment, both of male and female dress. However unnecessary and extravagant silk may have anciently been considered, it cannot now be dispensed with, neither can its consumption be confined to the wealthy. Time was, and now is in some countries, when different orders in society, growing out of rank and wealth, existed; but this state of things no longer continues in this country. Wealth and descent are no longer the thermometer of respectability, but industry, frugality, and the practice of the moral and social virtues. The poor as well as the rich must be clothed in silk: and why should they not? they are as meritorious, and often more so. The question is, therefore, settled, that there can be no diminution in the consumption of silk; and unless measures are taken to encourage its culture, we must be forever dependant on foreign labor for its production. Though foreign laborers may be dependant on us for the consumption of their products, yet it detracts much from our independence to be dependant on them for necessary articles of clothing. It is true, while our amicable relations with foreign countries continue, we shall be supplied; the advantage they derive from this item of our commercial dealing will ever afford us a guaranty against want in times of peace; yet our intercourse may be interrupted by war, and we be thrown upon our own resources for the production of this staple article of consumption. But if this state of things cannot be reasonably anticipated, our love of independence, and, above all, a prudent national economy, should prompt us to prosecute a branch of industry which promises such important results, and the practicability or feasibility of which is no longer a problem.

The importance of this branch of rural economy is also much increased, by the facilities it affords to all to attain competence and wealth. There is probably no other business, in which the same amount of capital will yield an equal amount of income. It will not be expected that I shall go into an accurate calculation of the product and profit of a plantation and cocoonery; yet, perhaps, I ought to say, that, within the range of my own observation, there can be no better investment of capital. The small amount of capital necessary to a commencement of the business is also a facility which no other branch of business, within my knowledge, holds out to the enterprising. A few acres of land of ordinary fertility, and a few dollars in money for the purchase of seed and plants, will enable a silk grower to lay the foundation for a plantation on a considerable scale.

Another facility peculiar to the business is the care with which operations are extended, without a corresponding extension of capital. The ratio in which the *morus multicaulis* may be multiplied, by means of cuttings and layers, is truly astonishing. Experiments have proved that, with a little labor and attention, they may be more than quadrupled every year. This will enable the farmer in moderate circumstances to compete with the capitalist, and prevent monopolizers from engrossing the whole of the business

and its profits. To the individual of limited means, and a large family of children dependant on him for support and education, the culture of silk holds out encouragement of extraordinary promise; while, at the same time, it affords ample opportunity for the capitalist or the incorporated company to make large investments with the moral certainty of success.

The culture and manufacture of silk must also, for a long time at least, be free from the depressions and embarrassments which, at times, are thrown upon other species of manufacture by enterprise and competition. Before the present prices can be materially reduced, an amount of domestic silk equal to the large amount annually imported must be produced; and this cannot be expected, while enterprise and labor have so many objects on which to expend themselves, as the various sections, climates, interests, and pursuits of this extensive country present. The disproportion also which has existed for the last twenty or thirty years, between the increase in the consumption of silk, and the increase of population, and which is becoming greater every year, will, it is believed, prevent the American silk growers, with all the aid and encouragement which may be extended to them by the National and State Legislatures, from producing the raw material in sufficient quantities to supply the demand, for at least another century.

A good beginning, however, has been made, and the business commenced under the most favorable auspices. In the month of September, I caused a circular to be prepared, propounding twenty-six interrogatories to silk growers, manufacturers, and other gentlemen interested in the subject. Several hundred were circulated; and many have been returned with answers to the inquiries. It is, however, to be regretted they were not forwarded at an earlier day, as a more punctual and general return would have been the consequence, and a greater amount of information collected. The facts, however, as far as they have been collected, (and they are as numerous and circumstantial as under the circumstances could be expected,) are of the most flattering character. From the answers to the interrogatories, the communications of gentlemen in different parts of the country, and such other means of information as I have been favored with, I am enabled to give the following exhibition of the progress and prospect of both branches of the business. The statements being made from correct data, may be relied on, as approximating to accuracy, so far as they go: but it is reasonable to suppose that the view is imperfect, as the business has probably been commenced in many parts of the country, from which no information has been received. These, of course, are not embraced: and the business is, no doubt, further advanced, and in a more prosperous condition than will be exhibited.

New England States.

The six New England States are, more or less, engaged in the culture and manufacture of silk; and four of them are encouraging the business by legislative bounties. In Maine, a bounty of five cents on every pound of cocoons grown, and fifty cents on every pound of silk reeled, is paid from the State treasury. The growing of silk has also been commenced in several towns in different parts of the State, and the experiments which have been made confirm the belief that the climate is no obstacle in the way of the silk grower; especially from the foliage of the Italian mulberry. In Newport, Fryeburg, Saco, Hiram, and Limington, nurseries have been planted, and are said to be in a flourishing condition, especially in the first

mentioned town. This town is situated at about equi-distance between the Kennebec and Penobscot rivers, and within a few miles of the 45th degree of latitude; and yet the young plants withstood the severity of the last winter uninjured. A gentleman in Fryeburg has 10,000 or 12,000 Italian mulberries, four years old, and several thousand more in his nursery. He fed the last season 5,000 worms, which produced about the usual quantity of silk. His confidence is so strong in the success and profit of the business, that he intends to extend it as fast as his means will admit. About \$40 worth of silk was made in Hiram the last season, and manufactured into sewing silk; the quality of which is said to be equal to the best Italian. A few pounds were also made in Limington of excellent quality.

In New Hampshire, the business has been begun, and is prosecuted with considerable spirit, though no public encouragement is given. At Concord, there is an incorporated company, with a capital of \$75,000, for the growth and manufacture of silk. The company have purchased a farm of 250 acres, and are stocking it with both kinds of the mulberry as fast as circumstances permit. Individuals, also, in most parts of the State, are planting the mulberry preparatory to feeding the worm. In the vicinity of Portsmouth many gentlemen are engaging in the business. Experiments have also been made in South Weare, Newport, Dunbarton, Warner, Hopkinton, Keene, and many other towns; and the results have satisfied the experimenters that the business is both practicable and profitable.

The Legislature of Vermont, by an act passed on the 10th of November, 1835, have authorized and directed the State treasurer to pay a bounty of ten cents on every pound of cocoons grown within the State. This bounty, and a good degree of interest which previously was awakened, has given the business a good beginning. In most parts of the State seed has been sown, trees planted, and small quantities of silk have been made. In Burlington, Brattleboro', Woodstock, Middleburg, Bennington, South Hero, Montpelier, Orwell, Shoreham, Guilford, Putney, and many other places, the subject is receiving attention, and preparations are making for operations on a large scale.

The legislation of Massachusetts, for the encouragement of the growth of silk, is of the most liberal character. The bounty on all silk grown, reeled, and throwed in the Commonwealth, is \$2 a pound, which is considered by silk growers to be sufficient to defray all expenses attending its growing, reeling, and throwing. Before the passage of this law, extensive nurseries and plantations were commenced or projected; but the business has since assumed a more general character. The interest which is felt in this State is attributable, in a great degree, to the efforts of Jonathan H. Cobb, Esq., of Dedham. This gentleman has been several years engaged in the business, and the success he has had has inspired others with confidence in it. There are several incorporated companies formed, some of which have commenced operations. Among them is the New England Silk Company, at Dedham, under the superintendence of Mr. Cobb. This company has a capital of \$50,000, with liberty to extend it to \$100,000. It has already about twenty acres planted with the mulberry, and about thirty more in preparation. In relation to the present state of the manufacturing department, Mr. Cobb says: "We have sixteen sewing silk machines, some of which have been in operation, and others are nearly completed for running. But a small quantity of sewing silk has been made as

yet. We have found organzine and tram, or warp and filling, to be in greater demand than heretofore; but, in consequence of the 40 per cent. protection on sewing silk held out by Government, we have been building a large mill this season, and are now about ready to manufacture 200 lbs. per week of sewing silk, which, at present prices, will fetch \$2,000; and should the tariff remain, and the price keep up as it now is, we shall make a heavy business of it. About \$10,000 worth of silk goods, part with a mixture of cotton, have been manufactured here the year past; about one-half from foreign, the rest from domestic silk. We shall continue to furnish, as we have in years past, the warp and filling for looms in different parts of the country. The Tuscan loom was first started here, and we have supplied many hundreds of them with warps, for two or three years past."

The Atlantic Silk Company, at Nantucket, has a capital of \$40,000. The object of the company is the growth and manufacture of silk. The factory is already in operation, and the fabrics which have been made are highly creditable to the manufacturers. William H. Gardner, Esq., of Nantucket, is president of the company.

The Northampton Silk Company has a capital of \$100,000, with liberty to extend it to \$150,000, and is under the superintendence of Samuel Whitmarsh, Esq., who is also president. The object of the company is both the culture and manufacture of silk; and for this purpose, they have a plantation of about three hundred acres, and suitable buildings. The plantation is being stocked with the *morus multicaulis*; and another variety of Chinese mulberry, which, on many accounts, they think preferable. Their manufacture, at present, is principally confined to sewing silk, the quality of which is said, by competent judges, to be equal to the best Italian. The company have also imported large quantities of mulberry trees, with which they are stocking their own plantation, and in part supplying the great demand for that article.

The Massachusetts Silk Company has a capital of \$150,000, and a plantation of 160 acres at Framingham. They have now growing 78,000 Italian, and 7,360 Chinese mulberry trees, besides a seed-bed of two acres. There are also in this State the Boston Silk Company, the Roxbury Silk Company, and the Newburyport Silk Company, all with large capitals. Besides these incorporated companies, individuals are engaging in the business, in most parts of the State, with very promising prospects.

In Rhode Island, where the manufacture of cotton has been long and profitably prosecuted, the manufacture of silk is commencing. There is one incorporated company by the name of the Valentine or Rhode Island Silk Company. This company has a capital of \$100,000. The factory is in Providence, and the plantation in the neighborhood. It has been in operation some time, and has manufactured some very beautiful and durable articles.

In Connecticut, silk has been grown in considerable quantities for fifty or sixty years, particularly in the counties of Windham and Tolland. As an encouragement to the silk grower, the State pays a bounty of one dollar on every hundred Italian or Chinese mulberry trees, set out at such distances from each other as will best favor their full growth and the collection of their leaves, and cultivated until they are five years old. The State also pays a bounty of fifty cents on every pound of silk reeled on an improved reel.

There are two incorporated companies in the State—the Mansfield and

the Connecticut Silk Manufacturing Companies. The former is located at Mansfield, and has a capital of \$20,000; the latter at Hartford, with a capital of \$30,000. Both these companies have been beneficiaries of a bank. The business of the latter has hitherto been principally limited to the manufacture of Tuscan straw for ladies' bonnets; but it has lately commenced the manufacture of sewing silk in large quantities and of a good quality. There is also a small silk-factory at Lisbon, which has been in operation several years, and is said to be doing a good business.

Individuals, also, in all parts of the State, are engaging in the culture; several of whom are planting large tracts with the mulberry. The Messrs. Cheney, at Manchester, have been engaged the past season in cultivating the *morus multicaulis*, and have been very successful. They intend stocking a large plantation of this variety of the mulberry, and prosecuting the growth of silk, and its manufacture into sewing silk and fabrics on an extensive scale. Messrs. Brown and Lee, of East Granby, have also extensive grounds devoted to the cultivation of the tree. They sowed, the last season, 120 pounds of Italian mulberry seed, and have several millions of seedlings. They are also extensively engaged in the cultivation of the *morus multicaulis*. Their ultimate object is to unite the manufacture with the growth of silk. There are, also, extensive nurseries at Hartford, Suffield, Farmington, Litchfield, New London, Stonington, Durham, New Haven, and many other towns. Mr. Ephraim Cheesbrough, of New London, has invented a simple plan for making cocoons, which promises to be an improvement on the old method. Mr. Isaac G. Botsford, of Roxbury, has invented a machine for the manufacture of organzine, tram, and sewing silk, which is said to be an important improvement in silk machinery. The machine of Mr. Adam Brooks, of South Scituate, which has been some time in use, proves to be a valuable invention.

Middle States.

The subject of encouraging the culture of silk has been under consideration in New York for some time, and it is expected it will be given at the present session. Several silk companies have been incorporated; among which are, the Troy, the Poughkeepsie, the New York, and the Albany Silk Growers companies. These companies have large capitals; but of their present condition I am not advised. Though the business is engaging the attention of gentlemen in most of the counties, yet my information is limited principally to those of Steuben, Broome, Lewis, Orleans, Monroe, Onondaga, and Suffolk. From these counties communications have been received. In the county of Steuben, there are about 20,000 Italian mulberry trees of five years growth and under, and 1,200 Chinese, one and two years old. About twenty persons have commenced the business; one acre is devoted, and ten more in preparation.

In Broome county, little has as yet been done; but my correspondent says: "I have no doubt that in three years there will be 100,000 *morus multicaulis* trees in this county." In Lewis county there are a few trees of both kinds, and one gentleman has 8,000 or 9,000 cuttings of the Chinese, ready for setting the coming spring. He says: "people are beginning to awake to the business, and believe it will flourish here." In Orleans county, there are about 600 of the Chinese, and 50,000 of the Italian, now growing. Seven pounds of sewing silk have been made, and seven or

eight persons engaged in the business on a small scale. It is supposed \$200,000 will be invested in the business in five years. In Monroe county, there are large nurseries at Rochester, Greece, and several other places. In the town of Sweden, there are 4,125 Chinese mulberry trees of five years old and under, and about 100,000 Italian; five acres of land are already planted, and fifteen more in a state of preparation. In Onondaga county, there are many of the Italian. On Shelter island, there are 6,000 Chinese, and 100,000 Italian, and seven acres of land are in preparation. In Southampton, on Long Island, there are 50,000 Italian and a few Chinese; two acres of land are stocked, and five preparing. A beginning has also been made in Montgomery county, and some beautiful sewing silk made.

The foregoing is a very imperfect view of the present state of the business in the great State of New York. In all parts of the State, individuals are engaging with spirit, and there is no doubt New York will become a great silk-growing district.

In New Jersey, several companies have been incorporated; among which are the New Jersey Silk Manufacturing Company, with a capital not exceeding \$30,000, and the Monmouth Silk Company. Several other companies are formed or projected, and enterprising individuals in many parts of the State are cultivating the mulberry, and, in some towns, small quantities of silk have been made. The soil and climate have been found well adapted to the business.

A number of companies have been formed in Pennsylvania, under a general law of the State for the encouragement of the culture of silk. The Beaver Silk Company, at Beaver Falls, in western Pennsylvania, is about commencing operations under very favorable circumstances. There is also a company in Chester county, and another recently formed in Philadelphia. At Economy, the Harmony Society have commenced the growth and manufacture of silk. They have about 10,000 Italian trees, and 453 Chinese, of various ages. They have manufactured sewing silk, vestings, cravats, &c., which are beautiful. Hundreds of farmers, mechanics, and professional men are also engaging in the business.

In Delaware and Maryland the subject is attracting much attention. Several companies have been formed, and individuals are commencing plantations. A company has been incorporated in Queen Anne county, with a capital of \$50,000, for the purpose of growing silk. The Talbot County Silk Company has also been incorporated.

Southern States.

In the southern, as well as in the northern and middle States, much interest is felt in the subject, and much is doing to introduce it to the attention of planters. In Virginia, they are proposing to devote their worn-out tobacco land to the culture of silk, in the hope of checking the tide of emigration, which is settling west and threatening to depopulate the country. There are several silk companies, and many patriotic individuals are making experiments. The Virginia Silk Company has been incorporated with a capital of \$10,000—a very liberal charter. The Potomac Silk and Agricultural Company, with a capital of \$5,000, and liberty to extend it to \$50,000, has also been incorporated. The company have purchased 400 acres of land, and planted about 2,000 Chinese mulberry trees.

Mr. J. B. Gray, near Fredericksburg, has also a large number of Chinese trees in a very flourishing condition.

The accounts I have received from North Carolina are of the most cheering character; they represent the soil and climate to be remarkably favorable to the growth of the tree and the rearing of the worm, and the planters are disposed to give the subject a fair trial. The same is substantially true as respects South Carolina and Georgia. Experiments have been made, the results of which have satisfied many of the planters that the young, aged, and infirm portion of their slaves can be profitably employed in the culture of silk; and there is little doubt that in a short time many of them will make a silk as well as a cotton crop.

In Florida and Alabama the tree grows luxuriantly, and produces an abundance of foliage. Experiments in rearing the worm have, also, been attended with favorable results; and a portion of the inhabitants are convinced that silk will be the most profitable crop they can make. At Pensacola and Mobile are large numbers of mulberry trees; and arrangements are making by several gentlemen to commence the business. At the latter place, Chester Root, Esq. is preparing for a large plantation. The black mulberry is indigenous, and its foliage has been found to make as good silk as that of the Italian or Chinese. It is also supposed the sterile lands of West Florida will become valuable on account of their adaptation to the production of silk.

Western States.

The soil and climate of the western States has also been found to be peculiarly adapted to the silk culture; and many farmers and others are turning their attention to it. In Ohio, there are a number of companies incorporated, with large capitals, and under the direction of skillful managers. The Ohio Silk Company, at Columbus, has a large plantation on the rich bottoms of the Scioto, which is fast stocking with both kinds of the mulberry: 30,000 Italian, four years old, and a large number of the Chinese, have been set. The company propose to extend their plantation of Italian to at least one hundred acres, with one thousand trees to the acre, and an equal number of acres with the Chinese. It is also their intention to add about fifty acres in hedges of both kinds.

A company has also been formed at Mount Pleasant, in Jefferson county, with a capital of \$50,000. The Massillon Manufacturing Company have had their capital extended to \$600,000, and are determined to engage largely in the culture of silk. Several other companies have been formed, and many more have petitions before the Legislature for acts of incorporation. In the vicinity of Canton, in Stark county, seventy families are said to be engaged in making silk; and in Knox, Cuyahoga, Jefferson, Belmont, Washington, Brown, Hamilton, Montgomery, Highland, and several other counties, many individuals are beginning. Several petitions are now before the Legislature praying for public encouragement; and it is expected something liberal will be done.

In Kentucky, a company has been incorporated under the name of the "Campbell County Silk Culture and Manufacturing Company," and has selected a favorable location opposite Cincinnati. The subject is new in this State, but it is attracting attention, as is apparent from the following extract of a letter from a gentleman near Lexington: "The first talk of silk-raising in this country was about a year and a half since, when a friend sent me the first copy of the Silk Culturist. So great has been the

increase of public sentiment, that there appear but few of the rich farmers but who are talking of it as a source of employment for their weak force. There are a great many Italian mulberries of one year's growth. I have near 100,000 in a nursery of five acres; and there is the produce of four pounds and a half of seed more, raised by five of my immediate neighbors; all of which will be planted out in the spring in hedge rows. I calculate there will be over one hundred acres planted. The six that are now making experiments are all rich, and can bring into the field one hundred and fifty hands of their own, and as much land as is necessary: and our whole energy will be turned to it."

In Indiana, large quantities of seed have been sown, and a spirit of inquiry has been awakened, particularly among the Quakers at Richmond. A gentleman of that place says: "There has nothing but the Italian been grown as yet, of which there is, to my knowledge, only about 30,000 trees, which are all seedlings. There will be some of the real Chinese, and also of the *multicaulis*, cultivated, though to a limited extent. The business cannot flourish with us till our trees have grown, though our woods abound with the black mulberry." There is a large nursery of both kinds at Madison, and the State will gradually be furnished with trees.

In Illinois, Michigan, Missouri, and Tennessee, small beginnings have been made, and the congeniality of the soil and climate cannot, ultimately, fail of making them great silk-growing States.

In looking at the vast amount of silk annually imported and consumed in this country, and the facilities it furnishes for its production, the conviction irresistibly forces itself upon the mind, that our national interest, independence, and respectability, loudly call for such legislative aid and encouragement as shall stimulate to activity and perseverance the efforts which are making to introduce its culture as a common branch of rural economy. Hitherto, the work has been carried forward by individual exertions; and this is unquestionably the true method, so far as individual interest is concerned. But the nation has a great interest involved in it; and it is its duty to foster it in such a manner as will afford it protection and encouragement. The public and individuals having a common interest in the object, may, by an energetic co operation in effort, secure its benefits to both.

The efforts which have been made by individuals, and the success which has thus far attended them, seem to point out the course which should be adopted by Congress. Enough has been done already to enlighten the public, so far as its practicability and profit are concerned; and nothing more is wanting to induce thousands of the enterprising and industrious to engage in it, but a thorough knowledge of its details. Could a general diffusion of practical knowledge on the subject of cultivating the tree and rearing the worm, be effected, I have no doubt the United States would finally become one of the greatest silk-growing countries in the world. It is for the committee to recommend the measures which ought to be taken by Congress to promote this great object; and in their hands I leave it, with one suggestion: if a small and cheap manual on the subject could be extensively circulated at the public expense, I have no doubt it would be well received, and, at the same time, be the best method to accomplish the great object in view.

I am, sir, very respectfully,
Your obedient servant,

ANDREW T. JUDSON.

Hon. J. Q. ADAMS,

Chairman Committee on Manufactures.

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