

MISSION OF D. J. BROWNE TO EUROPE.

LETTER

FROM

THE SECRETARY OF THE INTERIOR,

IN ANSWER TO

Resolution of the House, of 12th January last, in relation to the mission of D. J. Browne to Europe, as agent of the agricultural division of the Patent Office.

FEBRUARY 6, 1863.—Laid on the table and ordered to be printed.

DEPARTMENT OF THE INTERIOR,
Washington, February 5, 1863.

SIR: I have the honor to communicate herewith a report from the Commissioner of Patents, dated the 30th ultimo, containing the information called for by the resolution of the House of Representatives of the 12th of January, respecting the mission of J. D. Browne to Europe, as agent of the agricultural division of the Patent Office.

I am, sir, with great respect, your obedient servant,

J. P. USHER,
Secretary of the Interior.

Hon. GALUSHA A. GROW,
Speaker of the House of Representatives.

UNITED STATES PATENT OFFICE,
January 30, 1863.

SIR: In accordance with a resolution which passed the House of Representatives on the 12th instant, relative to the employment of Mr. D. Jay Browne as an agent to visit various countries in Europe for procuring information, books, and other objects, herewith I submit the following statement, together with copies of the correspondence between said agent and the Patent Office, from the period of his appointment to the present time.

I am, most respectfully, yours, &c.,

D. P. HOLLOWAY, *Commissioner.*

Hon. J. P. USHER, *Secretary of the Interior.*

UNITED STATES PATENT OFFICE, *April 16, 1861.*

SIR: In reply to your communication of the 8th instant, asking to be employed as an agent to visit various parts of Europe to investigate and report on the production, manufacture, and commerce of the flax and wines of that country, as well as for obtaining other information, seeds, cuttings, &c., I have the honor to inform you that your proposition is accepted, on condition that you receive from the funds of this office appropriated by Congress for agricultural purposes a compensation of two thousand dollars a year for your services, with the sum of one thousand dollars a year in addition thereto for travelling expenses, it being understood and agreed that you are to sustain yourself and defray all your personal expenses out of said sums, without incurring further expense on this office, during the time you may be thus employed, the term of service to commence with the date hereof.

You will accordingly first proceed to the north of Europe without delay, and diligently apply yourself in examining the wheat and flax fields of the countries you may visit, with the view of obtaining the best varieties of the seeds of these plants for cultivation and experiment in the United States, noting their characteristics, modes of culture, preparation for market, as well as their manufacture, and report the results of your inquiries to this office for publication as early as the 1st of January, 1862.

You will next please to visit some of the leading vineyards and wine-making establishments of the central, western, and southern parts of the continent, and direct your particular attention to the principal varieties of grapes, the modes of culture, and the character of the soil and climate in which they grow, noting, in the meantime, the processes of making the wines and of preparing them for market, and communicate the information you may obtain to this office for publication.

It is further understood and expected that during the term you may be employed as indicated above you will procure such seeds, cuttings, and other articles as this office may direct, whether by purchase, by gift, or by exchange, and obtain, whenever facilities may offer, any valuable statistical and other information connected with agriculture, without any additional compensation or extra charge for services thus rendered.

Very respectfully, your obedient servant,

D. P. HOLLOWAY,

Commissioner of Patents.

D. JAY BROWNE, Esq., *Washington, D. C.*

BELFAST, *Ireland, June 27, 1861.*

SIR: I depart from this place for London this evening, having accomplished all I can do here to advantage before the crops are harvested, and the returns of the census of 1861 are printed. I informed you of my arrival at Belfast through our despatch agent at London, which, I trust, was duly received.

I have the honor to be, very respectfully,

D. JAY BROWNE.

Hon. D. P. HOLLOWAY,

Commissioner of Patents, Washington, D. C.

LONDON, *August 2, 1861.*

SIR: In accordance with instructions received from the United States Patent Office, I would inform you that I have been engaged here during the last four

weeks in making out a report. I expect to be ready to start for Russia the last week in the present month.

Yours, respectfully,

D. JAY BROWNE.

Hon. D. P. HOLLOWAY,

Commissioner of Patents, Washington, D. C.

COURTRAI, September 19, 1861.

SIR: Agreeably to instructions, I am investigating the subject of flax culture and its manufacture in Belgium, and expect soon to proceed to Cambria and other parts of France. I would inform you that I have not yet received a word from the Patent Office since I left, in May. I have made arrangements to exchange documents between the Patent Office and the Board of Trade at Belfast, in Ireland, and the London Statistical Society, duly informing said office of the same; and gave directions for sending the back volumes of the Mechanical and Agricultural Reports. Similar arrangements are being made to exchange documents with the Ministry of the Interior of the Belgian government.

Very respectfully,

D. JAY BROWNE.

Hon. D. P. HOLLOWAY,

Commissioner of Patents, Washington, D. C.

BRUSSELS, December 26, 1861.

SIR: In compliance with instructions received from the United States Patent Office on the 16th of April last, herewith I transmit a report on the history, industry, and commerce of flax. Believing that this subject, at the present crisis, demands the deepest consideration in both hemispheres, I have availed myself of the best means in my power in the preparation of this report; although I am sensible of its imperfections, which may be attributed in a measure to unavoidable brevity, from the want of sufficient time to pursue the investigation to a more appropriate length. There are several features, however, to which I beg leave to allude. It will be observed that considerable portions are devoted to historical and meteorological details, which, from their ancient and local character, may not be of interest to all; but it is conceived that no branch of industry nor of trade can be fully appreciated and understood without some knowledge of its rise and progress, in order to show the errors and to take advantage of any favorable points which may occur.

The value of information concerning the climate of one country, as compared with that of another, to the agriculturist and the manufacturer is too apparent for further comment. I have the satisfaction to state that the prompt and liberal manner in which I was generally admitted into various establishments devoted to the subject, and the willingness of the owners or persons in charge to furnish the information sought, is deserving of great praise, and would serve as worthy examples for our own citizens in extending like courtesies to others, as occasions may hereafter offer, when honorably desired.

The attentions, also, of the heads of various departments of foreign governments, as well as the diplomatic and consular officers of the United States in several instances, in aiding me in the procurement of public documents and in

gaining admission into libraries and other establishments were of special service, all of which will be gratefully remembered and are hereby sincerely acknowledged.

I have the honor to be, very respectfully, your obedient servant,

D. JAY BROWNE.

Hon. DAVID P. HOLLOWAY,

Commissioner of Patents, Washington, D. C.

BRUSSELS, *January 22, 1862.*

SIR: I regret to inform you that I have been laboring under serious indisposition for several weeks, arising from a severe cold in the early part of December, which was followed by a slow fever, typhoidal in character. In consequence of this indisposition I have not been able to make much progress in duplicating my report. The preliminary parts are ready and those portions relating to Russia, Ireland, &c., which I will forward to you the earliest opportunity through the United States despatch agent, *via* England. I would send direct by mail were not the postage so heavy between Belgium and the United States, which would be no small item on a ream of paper.

My health, I think, has sufficiently recovered for me to copy the remainder of the report without delay.

Very respectfully,

D. JAY BROWNE.

Hon. D. P. HOLLOWAY,*

Commissioner of Patents, Washington, D. C.

BRUSSELS, *February 13, 1862.*

SIR: Previous to the sailing of the last British steamer for the United States I forwarded my "Report on the History, Industry, and Commerce of Flax" to Mr. John Miller, United States despatch agent, London, with instructions to transmit the same to the Patent Office, through the Department of State. If no accident befalls it you probably will receive it in due time. In the event of miscarriage a duplicate can be furnished at short notice.

When in London in July last I inquired of you, by letter, of the length you desired this report to be, and in what manner you contemplated to have it issued, if published; but as I received no reply I have thought it best to condense it into a comparatively small compass, in order that it may be published in the Agricultural Report of the Patent Office, or separate. In the customary type and size it would fall short of 100 pages. At the commencement of my investigations in Ireland it was conceived that an extended work could be written on the subject, amounting to 400 or 500 pages, illustrated by appropriate engravings; but as I failed to receive instructions from the Patent Office to that effect I undertook the more difficult task to embody the whole in a nutshell. In substance, as it is, it embraces all the information obtainable on the subject that would be truly practical and useful for the flax-raiser to know, so far as relates to the culture and preparation of the plant for the scutcher, with a general account of its origin and properties, and more especially of the rise, progress, and commerce of the linen trade of Great Britain, Ireland, and Russia, from the earliest times.

If desirable, I can extend the report to Belgium, Holland, and France, which would probably require about two months, without interfering much with the other duties assigned me in this mission. If you deem this expedient I shall be ready to receive instructions to that effect.

In regard to the documents and publications which I have obtained for the Patent Office by exchange, &c., I informed you some time since that I had directed the journal of the London Statistical Society to be forwarded through the despatch-bag to the Department of State, or otherwise if Mr. Stevens preferred. As to the Belgian and other publications I have with me, Mr. Vattmare directed me to forward them to him by mail, without providing means to pay the freight demanded in advance. As this would cost more than it would to ship them to New York, *via* Antwerp, by sailing-vessel, I have concluded to take the last-named course, and probably shall send you a bill of lading in a few days.

As I expect to leave here early next month, and not return, for the central or southwestern part of France, it would be better for all communications to be directed to the care of John Miller, United States despatch agent, 26 Henrietta street, Covent Garden, London.

In my next letter I will propose what I design to do in regard to the further investigation of the wines of Europe. If possible, I will get it ready for the same steamer as the present.

My health has recovered in a degree, although I am still weakened by a hard cough, and venture out but little except when the weather is mild.

I have the honor to be, very respectfully, your obedient servant,

D. JAY BROWNE.

Hon. D. P. HOLLOWAY,

Commissioner of Patents, Washington, D. C.

BRUSSELS, February 14, 1862.

SIR: Having reported on the history, industry, and commerce of flax, in pursuance of instructions received from the United States Patent Office on the 16th of April last, I now proceed to propose a plan for prosecuting the inquiries on grapes and wines. As you may not be fully aware of what was undertaken in this branch of economy, and partially accomplished under my directions while employed in the Patent Office, I will first point out some of the more prominent facts connected therewith.

Although special attention was directed to the subject in the Agricultural Reports of 1853 to 1857, and grape cuttings had been procured and distributed from Arkansas, New Mexico, and other parts, nothing of consequence was done before 1858. In the spring of that year a dozen or more species of American grape roots and considerable quantities of cuttings and grape seeds were planted in the propagating garden in the city of Washington, with the view of identification of species or varieties, hybridization with the European grape, and the production of new varieties from the seeds of the hybridized fruit.

In the summer of the same year a gentleman from Germany, who had been practically engaged in wine-making in that country, was employed by the office to aid in the novel and interesting experiment already commenced. Arrangements were also made at the same time with an eminent chemist in Boston, conjointly with the gentleman last referred to, and several wine manufacturers in New England, to determine the following points in regard to American native grapes, cultivated and wild:

1. Whether any of the grapes, at maturity, contain all the elements in sufficient quantity to make good wine, and one that will keep and bear transportation.
2. Whether the grapes are deficient in any wine-forming element, or contain any ingredient in excess that would prove injurious to the wine, or pernicious to human health.

3. To determine in what parts of the fruit said elements exist, and ascertain whether any deficiency or excess can be essentially remedied, and the injurious properties neutralized, reduced, or removed by artificial means.

In addition to the foregoing, the characters of the vines, their leaves and fruit, were to be noted, with their periods of maturity, soil, *habitat*, and location, and the seeds of remarkable varieties collected and planted for experiment. These inquiries were prosecuted with remarkable energy and success for nearly three months preceding the 10th of October, when my direction of that branch of the Patent Office ceased. The results of these efforts will be found imperfectly published in the Agricultural Report of 1859.

It appears that some forty species and varieties of grapes were collected and submitted to the chemist for analysis and experiment, who not only determined the percentage of sugar and tartaric acid contained in each, but discovered the cause and a simple remedy of the musky or foxy flavor peculiar to our wines.

It was ascertained that a majority of the varieties contained an abundance of wine-forming ingredients, and in most cases tartaric acid in excess; so much so that the "must," or grape juice, would bear an addition of water and other nameless substances fourfold, without injury to the wine.

The vines which had been planted in the propagating garden the previous spring had grown extraordinarily well, some of them having acquired an additional length of more than twenty feet; but on my retirement from the office they were all removed, and, so far as I can learn, all of my plans were suspended, or materially changed.

During the winter of 1859-'60, or that following my retirement, I pursued the investigation on private account, and took measures to establish a company near Washington for making wine from the native grapes, which grow wild in great abundance in that region; but, as one of my associates died on whom devolved a large share of the capital to be embarked, the enterprise was deferred.

While on a mission to Teneriffe, Spain, and various countries bordering on the Mediterranean, whither I was sent some twenty-eight years ago, and on a subsequent visit to the island of Madeira, I learned something in the art of wine-making, which, in connexion with the knowledge since acquired, prepared me in a measure to experiment upon and improve our native wines.

The early part of the winter above mentioned I procured from a wine manufacturer in New England a barrel of fermented juice of wild grapes two years old, and several cases of sugared wines, made from the same kind of fruit. Although some samples of the latter were pronounced as of fair quality for that class of wines, it was evident that they contained more or less uncombined alcohol which had been added artificially, either by cane-sugar or spirit direct, and they were slightly tinctured with the musky flavor common to most of our grapes. In the course of the winter I improved portions of these wines by completely removing this musky flavor and the alcoholic taste by simple processes, already known, and, after successive finings and decantations, in the spring it was bottled and kept in a moderately cool, light, dry cellar for a year, when it was pronounced equal to "Alicante" or "Lunel." The last bottle was drunk in Ireland, whither I carried it in May, 1861, but suffered no deterioration either from age or the effects of the voyage.

To say nothing of the factitious wines and the nefarious adulterations which are forced upon the people of almost every country of the civilized globe, allow me briefly to allude to some of the prevailing practices adopted in preparing a large share of the wines consumed at the present day. It is a well-known fact that nearly all the ports and sherries exported from Portugal and Spain generally contain from $20\frac{7}{10}$ to $23\frac{2}{10}$ per cent. of alcohol, a large portion of which is artificially added in the form of brandy or corn spirit before they are shipped, and that they are often further *strengthened* in the countries where they are after-

wards sold or consumed. This treatment no doubt arises from various causes, the chief of which are the inducements to profit.

From a natural love of strong drinks by very many of the people in the north of Europe, particularly in England, the manufacturers of these wines have encouraged or created this vitiated taste by increasing the quantity by the addition of brandy, spirit-water, and other ingredients, and hence a gain. Although port and sherry are still made in limited quantities according to the old regime, but very little of these wines leave the countries, as they are more rationally consumed at home.

Similar inducements are also offered to many of the wine manufacturers of the continent, and it is feared, too, within a distance of less than three thousand miles from home. Maintaining, as I always have, that if a taste could be generally diffused for genuine, wholesome wines, made either by the ancient processes or by more modern skill, it would be far better for the sobriety of our people, and for their general good health. I would therefore propose, in the further pursuance of the present mission, to pass a considerable time at some of the leading vineyards and wine-making establishments, as instructed by the Patent Office in April last, and obtain as perfect a knowledge as practicable of the best modes of managing the grapes, manufacturing them into wine, preparing and preserving the same for transportation or use, and duly communicate, practically or otherwise, to the office or other institutions the results.

I have the honor to be, very respectfully, your obedient servant,

D. JAY BROWNE.

Hon. D. P. HOLLOWAY,

Commissioner of Patents, Washington, D. C.

BRUSSELS, *February 21, 1862.*

SIR : I observe by the journals that experiments are about to be instituted to test the practicability of cultivating cotton in some of our northern States. Having noted the growth of this plant for many years under various conditions, particularly in regard to its soil, climate, and associated crops, both in the torrid and the two temperate zones, I beg leave to offer a few suggestions, which, if they possess sufficient merit, I trust you will place in such hands as will subject them to a fair test.

The cotton plant, as an annual, as it inevitably must be in nearly all the territory of the United States, to complete its cycle of growth under favorable circumstances necessarily requires a period of from four to four and a half months without frost. By referring to the Agricultural Report for 1858, it will be seen that, among the meteorological observations therein recorded, as made under the joint direction of the Patent Office and the Smithsonian Institution, there are about seventy points east of the Rocky mountains and north of the latitude of Washington, which had more than *one hundred and thirty-five consecutive days in the year without frost*, after the 30th of May, extending to all the middle and northern States, except Maine. Within this range there are numerous localities in Maryland, Delaware, New Jersey, Ohio, and Illinois, in which cotton was formerly successfully grown in the open air for domestic use; but the culture was discontinued as unprofitable when southern cotton was produced in larger quantities, and fell in price.

In viewing the growth of cotton, in connexion with its associated crops, I have observed that the more hardy varieties will mature, in open culture, with the sorghum or the white goma-seed Indian corn; and judging from the requirements of the two last-named plants, it is doubtful whether it will mature well at the north, except in remarkably warm seasons, or in very favorable and sheltered

situations, owing to the cool nights and prevalence of stormy weather, which usually occur during most of the month of May. In order to overcome this difficulty, I would suggest that an experiment be made of starting some cotton plants in three-inch pots, in a hot-bed, or, what would be better, in a propagating house, constructed and warmed somewhat after the original plan of that erected in Washington for propagating the tea seeds about three years ago, and described in the Agricultural Report for 1858, with the exception of the top or roof, which should be entirely glazed and two or three feet lower. The cotton seeds may be sown, one in each pot, from the 20th of April, or earlier, to the 1st of May, and the young plants properly watered and ventilated up to the 1st and 10th of June, when they may be planted in the field where they are intended to grow, five feet by two and a half feet apart, with the "forms" or balls of earth attached, as they glide out of the pots. Great care should be taken not to break or crack these balls of earth as they are removed from the pots; for the least fracture or derangement of the young rootlets in transplanting would check the future growth of the plants, and result in a failure of the crop. This labor of transplanting may be performed during any weather, wet or dry, without retarding or injuring the vegetation of the plants. In the course of the next two months following, the field should be carefully worked with the cultivator and hoe twice or three times, using great precaution not to wound the tender bark of the plants, as it would retard their growth or produce disease. If the summer should prove sufficiently warm and wet for a good crop of Indian corn, the cotton would form its bolls, which would begin to burst and display their white fibre towards the end of August, when the cotton-picking season should commence and be continued, as the bolls open, up to the appearance of hard frost.

For details of culture and the management of the crop, it would be well to consult an experienced cotton-grower, or some reliable publication in which the subject is treated at length.

A hot-bed or propagating house, with an available area of 2,200 square feet, would admit 35,200 three-inch pots, and consequently would accommodate that number of young plants. An acre of ground, planted five feet by two and a half feet apart, would contain 8,712 plants, and hence the number started in a hot-bed, as above, would be sufficient for four acres. If successful, allowing one ounce of ginned cotton-fibre to each plant, the yield of an acre would be 544½ pounds, which, if sold at 20 cents, would bring \$108 90. Estimating the yield of seed, in weight, to be equal to that of the fibre, if sold, it would nearly or quite cover the expense of propagating the young plants. It is evident, then, from these calculations, that, if the experiment should prove successful, cotton-raising would be more profitable to the grower at the north than the ordinary crops.

Should the yield of fibre or seed, however, not come up to this mark, or the prices fall below these estimates, it would be easy for the farmer to determine whether the culture may be profitably continued, and at how low a figure it should cease. Again, should the hot-house propagation prevail, other advantages might be derived by appropriating the house and fixtures to other uses during a great portion of the year. Grapes, strawberries, or tomatoes could be grown in pots or boxes through the autumn into December, and cauliflowers, lettuces, mint, &c., through the remainder of the winter into April, or the time of sowing the cotton seeds in the spring, the propagation of all of which could be made a business, distinct in itself, the cotton farmer having only to purchase the young plants by the thousand, without further outlay of capital, or diverting his mind from his other pursuits.

I have the honor to be, very respectfully, your obedient servant,

D. JAY BROWNE.

Hon. D. P. HOLLOWAY,

Commissioner of Patents, Washington, D. C.

BRUSSELS, *March 5, 1862.*

SIR: In addition to the performance of the special duties assigned me in the instructions received from the Patent Office on the 16th of April last, I have collected a considerable amount of statistical information on the "*Production, consumption, and economy of food*," conformably, as far as practicable, to the synopsis of the plan submitted to yourself, and approved of by Colonel Seaton, Dr. Gale, and others, about a year ago. But for the want of sufficient time to reduce my minutes to a useful form, I am not prepared to make a full report. I say a *useful form*, because I conceive that statistics are comparatively of but little use unless they can be applied to some practical or utilitarian effect.

Therefore, in order that I may be better understood, herewith I present a few tables, with such remarks and suggestions as the subject appears to require.

I have the honor, &c.,

D. JAY BROWNE.

Hon. D. P. HOLLOWAY,

Commissioner of Patents, Washington, D. C.

Table showing the imports and exports of wheat, and its equivalent in flour, from France, with the mean annual prices of wheat for the whole of France, and the mean prices of wheaten bread per kilogramme in Paris, from the year 1819 to 1858, inclusive.

Years.	Imports.	Exports.	EXCESS.		Prices of wheat, hectolitres.	Prices of bread, kilogrammes.
			Imports.	Exports.		
	<i>Hectolitres.</i>	<i>Hectolitres.</i>	<i>Hectolitres.</i>	<i>Hectolitres.</i>	<i>Fr. c</i>	<i>Centimes.</i>
1819..	1, 304, 975	186, 434	1, 118, 541	.....	17 50	35.27
1820..	662, 268	173, 202	489, 066	.....	18 13	41.87
1821..	609, 479	63, 245	546, 479	.....	17 35	38.35
1822..	976	72, 226	.....	71, 250	14 81	33.20
1823..	1, 240	90, 100	.....	88, 860	17 06	35.35
1824..	1, 257	217, 703	.....	216, 446	15 16	28.48
1825..	950, 663	799, 225	151, 438	.....	14 90	29.48
1826..	90, 004	541, 411	.....	451, 307	15 36	29.43
1827..	66, 424	219, 145	.....	152, 721	17 53	32.40
1828..	1, 172, 188	204, 285	967, 903	.....	21 71	39.95
1829..	1, 728, 944	215, 485	1, 513, 459	.....	22 32	45.73
1830..	2, 063, 203	140, 702	1, 922, 501	.....	21 84	39.32
1831..	1, 142, 726	233, 300	909, 426	.....	22 03	39.69
1832..	4, 475, 738	232, 174	4, 243, 564	.....	22 23	37.60
1833..	501, 374	242, 528	258, 864	.....	16 00	28.95
1834..	458	274, 763	.....	274, 303	14 65	27.44
1835..	463	285, 266	.....	284, 803	14 75	28.59
1836..	220, 507	324, 201	.....	103, 694	16 28	27.92
1837..	285, 140	490, 046	.....	204, 906	17 32	29.32
1838..	100, 758	668, 268	.....	567, 510	19 34	34.53
1839..	1, 179, 343	801, 098	378, 243	.....	22 50	39.95
1840..	2, 247, 186	210, 304	2, 036, 822	.....	22 09	38.83
1841..	156, 370	873, 357	.....	716, 987	18 09	31.40
1842..	562, 904	874, 511	.....	311, 607	19 44	34.17
1843..	2, 025, 235	297, 010	1, 728, 225	.....	19 96	32.62
1844..	2, 475, 723	390, 541	2, 085, 182	.....	18 98	34.80
1845..	749, 075	450, 415	298, 660	.....	18 72	32.75
1846..	4, 919, 489	255, 432	4, 664, 057	.....	23 53	39.37
1847..	9, 157, 943	203, 376	8, 954, 567	.....	29 46	49.87
1848..	1, 250, 837	1, 971, 336	.....	720, 499	16 27	29.29
1849..	4, 526	3, 032, 458	.....	3, 027, 932	15 39	28.37
1850..	857	4, 464, 782	.....	4, 463, 925	14 33	26.87
1851..	102, 549	5, 003, 378	.....	4, 900, 829	14 63	26.96
1852..	267, 991	2, 425, 399	.....	2, 157, 408	17 49	31.80
1853..	4, 811, 532	1, 090, 769	3, 720, 763	.....	23 59	38.37
1854..	5, 635, 613	262, 156	5, 373, 457	.....	29 09	48.50
1855..	3, 704, 718	202, 245	3, 502, 473	.....	29 37	49.79
1856..	8, 854, 256	177, 113	8, 677, 143	.....	30 22	49.91
1857..	3, 895, 397	417, 204	3, 478, 193	.....	23 83	38.17
1858..	1, 913, 866	6, 611, 193	.....	4, 697, 327	20 15	29.40

NOTE.—One kilogramme is equal to nearly $2\frac{1}{2}$ pounds, (2.20486 ;) one franc is equal to nearly 20 cents, United States currency ; one centime is equal to about one-fifth of a cent.

It will be seen from the foregoing table that within the period of forty years the imports of wheat into France exceeded the annual exports twenty-two times, and that the exports exceeded the imports eighteen times, the total amount imported being 57,619,026 hectolitres, and the amount exported 23,412,314 hectolitres, or an excess of imports of 97,075,570 bushels. France, therefore, is still dependent on other countries for a portion of her breadstuffs, notwithstanding the breadth of wheat culture and the annual yield per hectare have steadily increased. It is estimated that the amount of wheaten bread annually consumed in the whole country is 5,175,000,000 kilogrammes, which would give 143 7.10 kilogrammes, or 316 83.100 pounds, to each inhabitant per annum, or about 13 7.8 ounces a day.

The principal countries from which France imports wheat or flour are Russia, Poland, the United States, Moldavia, the Two Sicilies, Tuscany, and Spain.

The chief exports of the grain are to the United Kingdom, Switzerland, Belgium, and Holland.

By the preceding table it will be seen that the breadth of culture of wheat in France increased within a period of forty-three years more than 2,000,000 hectares, or 5,060,922 acres, and that the annual yield nearly doubled within the time, the increase of the amount harvested being 200,154,319 bushels. From 1815 to 1825 the mean yield was 10 95.100 hectolitres per hectare; from 1826 to 1836 it was 12 35.100 hectolitres; from 1836 to 1845 it was 13 hectolitres; and from 1846 to 1857 it was 13 7.10 hectolitres per hectare. In comparing the first of these periods with the last, we find that the mean increase of yield was about 3 hectolitres per hectare, or at the rate of 3 16.100 bushels per acre. The increase of yield per hectare from 1815 to 1858 was 7 97.100 hectolitres, or 9 15.100 Winchester bushels, per acre.

Here the question naturally presents itself, *How and by what means has this extraordinary increase been brought about?* The subject is worthy of investigation, and might prove of great value to the older settlements of the United States, where the wheat crops have been falling off for the last fifty years. The French government, ever awake to its material interests, hearing of this circumstance, in order to guard against any similar calamity which might in future occur in their own country, despatched a special commissioner to America some six or seven years ago to inquire into the cause. In a similar manner it behooves us to study the cause of the increase yield of wheat in France, and communicate the result to the Patent Office in a special report.

Table showing the breadth of culture, yield, and amount of wheat produced in France from the year 1815 to 1858, inclusive.

Years.	Area sown.	Amount harvested.	Ave'ge yield per hectare.
	<i>Hectares.</i>	<i>Hectolitres.</i>	<i>Hectolitres.</i>
1815.....	4, 591, 677	39, 460, 971	8.59
1816.....	4, 472, 260	43, 316, 694	9.73
1817.....	4, 672, 305	47, 984, 044	10.27
1818.....	4, 623, 262	52, 697, 927	11.40
1819.....	.....	59, 841, 150	.....
1820.....	4, 683, 788	44, 347, 720	9.47
1821.....	4, 753, 079	58, 219, 268	12.25
1822.....	4, 797, 810	50, 856, 707	10.60*
1823.....	4, 854, 816	58, 676, 862	12.80
1824.....	4, 884, 232	61, 788, 972	12.65
1825.....	4, 854, 169	61, 035, 177	12.57
1826.....	4, 895, 088	59, 621, 917	12.18
1827.....	4, 902, 981	56, 785, 944	11.58
1828.....	4, 948, 130	58, 823, 512	11.80
1829.....	5, 024, 488	64, 285, 521	12.79
1830.....	5, 011, 704	52, 782, 008	10.53
1831.....	5, 111, 155	56, 429, 694	11.40
1832.....	5, 159, 759	80, 089, 016	15.52
1833.....	5, 242, 779	66, 073, 141	12.60
1834.....	5, 302, 748	61, 981, 226	11.68
1835.....	5, 338, 043	71, 697, 484	13.43
1836.....	5, 284, 807	63, 583, 725	12.30
1837.....	5, 407, 868	67, 915, 534	12.56
1838.....	5, 460, 749	67, 743, 571	12.41
1839.....	5, 384, 288	64, 079, 532	11.90
1840.....	5, 531, 782	80, 880, 411	14.62
1841.....	5, 562, 668	71, 463, 681	12.67
1842.....	5, 576, 110	71, 314, 220	12.79
1843.....	5, 664, 105	73, 650, 509	13.00
1844.....	5, 679, 337	82, 454, 845	14.52
1845.....	5, 743, 135	71, 963, 280	12.57
1846.....	5, 936, 908	60, 696, 968	10.23
1847.....	5, 979, 311	97, 611, 140	16.32
1848.....	5, 973, 377	87, 994, 435	14.73
1849.....	5, 966, 153	90, 791, 712	15.21
1850.....	5, 951, 384	87, 986, 788	14.78
1851.....	5, 999, 376	85, 986, 232	14.33
1852.....	6, 090, 049	86, 065, 386	14.13
1853.....	6, 210, 605	63, 709, 638	10.26
1854.....	6, 408, 238	97, 194, 271	15.17
1855.....	6, 419, 330	72, 936, 726	11.36
1856.....	6, 468, 236	85, 308, 953	13.19
1857.....	6, 593, 530	110, 426, 462	16.75
1858.....	6, 639, 688	109, 989, 747	16.56

NOTE.—One hectare is equal to nearly 2½ acres, (2.47114;) one hectolitre is equal to about 2 bushels, 3 pecks, and 3 quarts, (2.83791,) Winchester measure.

ST. QUENTINE, FRANCE, *October 15, 1861.*

SIR: After passing a short time in this part of France, for the purpose of a further investigation of the linen trade and manufacture, I intend to spend a few days in Prussia, directly after which I expect to be able to make out a report. The first of January is the time designated for me to report, in my instructions from the Patent Office, which will be done according to my best ability. As duplicates will be required, I shall be under the necessity of obtaining some assistance, which I trust the office will be willing to pay for. I will make said expense as little as possible. I would not ask this were not my labors so arduous, and my personal expenditures so large.

I would remind you that I was requested to make exchanges for the Patent Office with the governments and societies of Europe for statistical and agricultural works, which I have done in several places, and in two instances have received the publications, and am waiting for the office to provide means or instructions to forward them to the United States. These documents are numerous and bulky, and will occupy several cubic feet when packed, and consequently will be attended with charges which it will not be expected I am to pay. Please to inform me what I am to do in this case, and whether and when the Patent Office will forward sets (mechanical and agricultural,) as complete as practicable, of the reports. The following are the parties with whom arrangements have been made:

“London Statistical Society, No. 12 St. James’s square, London, England.
“Minister of the interior, Brussels, Belgium.”

The Patent Office reports can be forwarded to the United States legations of London and Brussels, through the despatch bags from the Department of State at Washington. The reports of the London Statistical Society, perhaps, could be sent in the despatch bags at London; but the documents at Brussels will require a large case, requiring to be shipped from Antwerp or Ostend.

As Mr. McIlwrath, of the linen trade committee of Belfast, has not sent the *circulars*, as he agreed, I do not feel as though I am under immediate obligation to send our reports.

Hoping that I shall hear from you soon, I remain, very respectfully,
D. JAY BROWNE.

Hon. D. P. HOLLOWAY,
Commissioner of Patents, Washington, D. C.

Mr. Browne was recalled by a letter dated the 26th of March, 1862; his service commenced on the 16th of April, 1861.

It will be seen that Mr. Browne complied with the instructions he received as far as time permitted. Had he been allowed to prosecute the objects of his mission he would have accomplished, beyond a doubt, a valuable work for the country. In addition to the special duties assigned to him, he collected a considerable amount of statistical information on the “Production, consumption, and economy of food,” but for the want of time was unable to prepare a report. He also collected valuable information in regard to the culture of grapes and the manufacture of wine.

Mr. Browne, on his departure from Washington, soon after his appointment, in April, 1861, conformably to the previous usage of the Patent Office, received as advance pay the sum of fifteen hundred dollars; and at some period subsequent to September 2, 1861, he received a like and the only additional amount of compensation to which he was entitled for the term of one year. Some time previous to April 1, 1862, he drew for fifteen hundred dollars more, as advance compensation for another six months, the payment of which was refused.

In referring to that part of the resolution inquiring "what benefit the agricultural and manufacturing interests of the country have derived or are likely to derive from Mr. Browne's agency," it may be stated that, in the highly interesting paper in the agricultural report of 1861, there will be found much practical and important information for those who are engaged in or are about to embark in the culture and manufacture of flax, which, if carefully studied and followed, doubtless will lead to beneficial results.



THE HOUSE OF REPRESENTATIVES
1874

THE HOUSE OF REPRESENTATIVES

MESSAGE

1874

PRESIDENT OF THE UNITED STATES

TO THE HOUSE OF REPRESENTATIVES
OF THE UNITED STATES
IN SENATE
JANUARY 13, 1874

TO THE HOUSE OF REPRESENTATIVES
OF THE UNITED STATES
IN SENATE
JANUARY 13, 1874

RECEIVED

RECEIVED

THE HOUSE OF REPRESENTATIVES
OF THE UNITED STATES
IN SENATE
JANUARY 13, 1874

WILLIAM H. R. 1874

THE PRESIDENT