ANNUAL REPORT
OF THE
COMMISSIONER OF PATENTS.

UNITED STATES PATENT OFFICE,
January 20, 1858.

SIR—In compliance with the fourteenth section of the act entitled "An act in addition to the act to promote the progress of science and arts," approved March 3, 1837, I have the honor to submit the following report of the operations of this office during the year terminating the 31st of December, 1857 :—

No. 1.

Number of applications for patents	4,771
Number of patents granted (including designs, re-issues, and additional improvements)	2,910
Number of caveats filed	1,010
" applications for extension of patents	21
" patents extended	11
" patents expired	572
Of the patents granted, there were—	
To citizens of the United States	2,868
subjects of Great Britain	24
subjects of France	13
subjects of other foreign nations	5
Total	2,910

The patents granted to citizens of the United States were distributed among the several States, Territories, &c., as follows :—

New York	855	District of Columbia	33
Massachusetts	421	Alabama	27
Pennsylvania	314	Georgia	20
Ohio	235	Louisiana	20
Connecticut	161	North Carolina	14
Illinois	119	Tennessee	14
New Jersey	91	South Carolina	12
Indiana	60	Mississippi	11
Virginia	58	Iowa	11
Maryland	57	Delaware	10
Vermont	48	California	7
Missouri	44	Texas	5
New Hampshire	41	Arkansas	3
Kentucky	37	Minnesota	3
Michigan	35	Kansas	1
Rhode Island	36	United States Army	2
Wisconsin	31		
Maine	33	Total	2,868

Notwithstanding the rapid decline in the business of the office during the months of October, November and December, the aggregate number of patents for the year exceeded those of 1856 by four hundred and eight. This regularly progressive augmentation, which from year to year has been so long announced, is due alike to the inherent and irrepressible energy of the national mind and to the admirable system by which it is excited and fostered. That system wisely avoids the laxity of European laws, which grant patents, as of course, on all applications upon payment of the fees, and leave their value to be subsequently tested by the impoverishing process of protracted litigation. As decidedly, on the other hand, does it eschew that stern, unsympathizing, distrusting temper which would receive the inventor as a stranger beneath the roof of this magnificent edifice which has been reared at once as a monument to his genius, and as a depository of the trophies of his labors. That better policy, which adopts the happy medium between these two equally pernicious extremes, and which, while welcoming the inventor as a friend and patron, in that frank and free conference with him enjoined by law, kindly and anxiously sifts from his invention its minutest patentable features, is a policy essentially American in its origin and aims, and must be inflexibly maintained in the administration of this office so long as it remains faithful to the high mission with which it has been charged. The restless activity which has distinguished the inventive genius of the country during the past year has been confined to no class or pursuit. Alike from the walks of science, the workshops of the mechanic, and the broad lands of the husbandman, inventions have come thronging to this office, demonstrating how completely the national intellect is emancipated from the shackles of the past, and with what intense zeal it is pursuing that career of glory which is open before it. While every part of the field of invention has been assiduously occupied, that relating to agriculture has proved most fruitful. Of the twenty-nine hundred and ten patents issued, four hundred and thirty-eight (cotton gins, rice cleaners, and fertilizers included) were for agricultural processes and implements. This is a most grateful feature in the year's operations; for as the virtues of Cincinnatus have ever been found, like that illustrious patriot, at the plow, so every improvement in the arts and sciences tending to develop the strength and advance the general prosperity of the tillers of the soil, is broadening and deepening those foundations on which, alike in calm and in storm, the republic must rely for its security.

The characteristics of the inventions of the past year have been decidedly utilitarian. But little attention seems to have been bestowed upon articles of mere luxury. The unceasing inquiry has been for agencies capable of yielding the largest amount of the elements of human comfort, with the least possible expenditure of human labor. This is certainly a movement in the direction of the highest type of civilization; for until the masses of mankind shall have been relieved from the pressure of that ceaseless toil which renders life in its weariness but a reflection of the fabled tortures of the Sisyphus, it will be in vain to expect for the mental and moral nature of our race more than the morning twilight of that development whose noonday splendors have been so long the dream and the hope of the philanthropist.

No. 2.

STATEMENT OF MONEYS RECEIVED AT THE PATENT OFFICE DURING THE YEAR 1857

Received on applications for patents, re-issues, additional improvements, extensions, caveats, disclaimers, and appeals	$182,250 00
Received for copies and according assignments	13,882 01
Total	$196,132 01

No. 3.

STATEMENT OF EXPENDITURES FROM THE PATENT FUND DURING THE YEAR 1857.

For salaries	$82,711 23
For temporary clerks	43,236 80
For contingent expenses	47,107 58
For payments to judges in appeal cases	300 00
For refunding money paid into the treasury by mistake	206 50
For refunding money on withdrawals	38,019 98
Total	$211,582 09

The above aggregates of receipts and expenditures accrued as follows :—

	In the 1st quarter.	*Second.*	*Third.*	*Fourth.*	*Total.*
Rec'ts.	$55,290 22	60,783 08	45,172 75	34,886 04	$196,132 01
Exp's.	59,721 85	50,786 53	53,433 54	47,640 17	211,583 09
Excess of expenditures over receipts					$15,450 08

The excess of expenditures over the receipts of the past year admits of a satisfactory explanation. A large part of this excess is made up of $9,234 58, paid in the month of January, 1857, for stationery, parchment, and books purchased in 1856, and which—as the parchment and stationery had been consumed in the current business of the office—were properly chargeable to that year. During the first three quarters the receipts exhibit an average per quarter of $53,748; in the last quarter they suddenly declined to $34,886—showing a deficit for that brief period, as compared with the average, of $18,862. There is in this no evidence either of improvidence or of inability on the part of the office to maintain that self-sustaining character which it has always supported in legal estimation and in fact. Had not the year 1857 been burdened with heavy pecuniary responsibilities belonging to 1856, and had the revenues continued for the last as during the previous quarters, instead of there being an excess of expenditures over the receipts, there would have been a surplus on hand of at least $12,646. It is scarcely necessary to add that the abrupt falling off in the business, and consequently in the revenues of the office, commencing in September and continuing throughout the last quarter, was a consequence of that financial revulsion whose baleful influences have been felt in all the business relations of life. Happily, this calamity, so disastrous for the moment, is rapidly passing away, and the return tide of prosperity, so confidently anticipated, will no doubt be fully shared by this office.

No. 4.

STATEMENT OF THE CONDITION OF THE PATENT FUND.

Amount to the credit of the Patent Fund, 1st of January, 1857	$55,169 54
Amount paid in during the year.	196,132 01
Total.	251,301 55
Deduct amount of expenditures during the year.	211,582 09
Leaving in the treasury 1st of January, 1858	$39,719 46

TABLE EXHIBITING THE BUSINESS OF THE OFFICE FOR SEVENTEEN YEARS, ENDING DEC. 31, 1857.

Years.	*Appl'ts filed.*	*Caveats filed.*	*Patents issued.*	*Cash received.*	*Cash expended.*
1841..	847	312	495	$40,413 01	$23,065 87
1842..	761	291	517	36,505 63	31,241 48
1843..	819	315	531	35,315 81	30,776 96
1844..	1,045	380	502	42,509 26	36,344 73
1845..	1,246	452	502	51,076 14	59,395 65
1846..	1,272	448	619	50,264 16	46,158 71
1847..	1,531	533	572	63,111 19	41,878 35
1848..	1,628	607	660	67,576 69	58,905 84
1849..	1,955	595	1,070	80,752 78	77,717 44
1850..	2,193	602	995	86,927 05	80,100 95
1851..	2,253	760	869	95,738 61	86,916 93
1852..	2,639	996	1,020	112,056 34	95,916 91
1853..	2,673	901	958	121,527 45	132,869 83
1854..	3,324	868	1,902	163,789 84	167,146 32
1855..	4,435	906	2,024	216,459 35	179,540 33
1856..	4,960	1,024	2,502	192,588 02	199,931 02
1857..	4,771	1,010	2,910	196,132 01	211,582 09

It will be seen from this condensed exhibit that, with the exception of the very slight and momentary check experienced in the last quarter, the increase in the business of this office has been steady and uninterrupted. The inventive genius of the country, great as have been its efforts and attainments, has manifested none of the languor of exhaustion, nor testified any inclination for repose. Each discovery made, like a fire kindled in a dark place, while enlarging the horizon of science, has laid bare yet other and wider fields to be traversed by its ever-brightening pathway.

In reviewing the triumphs of invention and discovery, in every department of the arts and sciences, for the last three-quarters of a century, and in marking their beneficent influences in softening the asperities and exalting the dignity of human labor, there is abundant cause for heartfelt exultation. The blessings thus diffused are as universal as the air we breathe, and, amid all the changes, social and political, to which we may be exposed, they will still endure, or will pass away, only to give place to some higher and nobler fruit of the same indomitable genius which produced them. But, while there is thus in the past so much to excite our pride, there is in the future yet more to excite our hopes. If that future is to be measured by the strides of that past, rapid as has been our advancement, it is but reasonable to infer that we have scarcely crossed the threshold of the temple of human knowledge, and, and magnificent as may seem the trophies we have treasured up, it would hardly be an exaggeration to say—to borrow the thought of the great Newton—that we have gathered as yet but a few pebbles and shells on the shore of that ocean of truth, whose depths still lie unexplored before us.

With as much care and with as near an approach to strict accuracy as was possible, the table which follows has been prepared, for the purpose of presenting a comparative view of the progress of inventions for a single year in the United States and in the other nations therein designated :—

Country.	*Patents granted in 12 months.*	*Population.*
France	6,187	35,781,628
United States	2,910	23,191,918
Great Britain and Ireland	2,115	27,511,447
Belgium	1,413	4,426,202
Austria	724	36,514,466
Sardinia	185	4,368,972
Saxony	116	1,828,732
Canada	100	1,842,265
Hanover	49	349,958
Prussia	48	16,923,721
Bavaria	45	4,519,546
Netherlands	43	3,203,232
Sweden	32	3,482,541
Wurtemberg	25	1,733,263
Russia	24	69,660,146
Brazil	4	4,750,000

As the strict examination of all inventions sought to be patented, which forms so prominent a feature in our system, does not prevail in the transatlantic governments referred to, a more correct estimate would be arrived at by comparing, not the patents issued—amounting to twenty-nine hundred and ten—but the number of applications—four thousand seven hundred and seventy-one—with the patents granted by the foreign governments during the same period of time. It is known that at least 854—probably more—of the Belgian patents were those of France and other governments re-issued. Notwithstanding the fetters flung by imperial hands athwart the tides of French genius, they still obey the heroic impulses imparted to them by the revolution of 1790, and continue, with equal daring and ease, to change the forms of government and the fashion of the minutest articles of trade. It is in the light of the evening crepuscule of that revolution that French science still pursues its sublime career. In Russia—whose government is verging upon the thousandth year of its existence—in 1852, 1853, and 1854, but ninety-seven patents were issued, of which fifty-six only were granted to natives of the empire; being an average of about nineteen per annum in a population of sixty-nine millions. For twelve months ending November, 1857, the patents granted amounted to twenty-four; of which but thirteen were to natives of the country. While that empire and the United States are the antipodes of each other in their political organizations, so do they present, developed in striking contrast, the results to which their respective political systems tend. That the intrepid and quenchless spirit of inquiry which seems inseparable from every throb of American life, and which, from year to year, is is filling this office with the memorials of its achievements, is one of the boons of our republican institutions, may be affirmed without the hazard of contradiction. As the soil, when exposed to the sunshine and the shower, starts into life, the germ of every flower and shrub and tree lurking beneath its surface, so acts the human soul when stimulated and kindled by the influences of well-regulated political freedom. The above table, in its every line and lineament, palpitates with the demonstration of this great, and for us most gratifying, truth. In examining it, passing from our own favored land, we can but note that, as the light of liberty waxes dimmer and dimmer, so does the inventive genius flag and dull apace, until finally, amid the darkness of the political night which broods over eastern lands, it is utterly extinguished. Upon the mountain slopes of the far East may be seen narrow, winding paths, in which, for uncounted centuries, the burden-bearing camel has been treading on precisely the same spot, until now his foot-print, distinct and deep, is worn far into the solid rock—a fitting symbol of the oriental mind beneath the crushing incubus of oriental despotism.

Subjoined to this report will be found the usual catalogue of patents which expired during the past year; also, a classified summary of those issued during the same period, together with an alphabetical list of the patentees, followed by the drawings and by abridgments of the specifications, which, under our laws, not only illustrate the patent, but are part and parcel of it.

While the statutes organizing and regulating the action of this office constitute, perhaps, the best system of patent laws ever devised, still the experience of the last twenty years has disclosed various imperfections in their provisions, the more prominent of which, with the remedies proposed, I deem it proper at this time briefly to urge upon the attention of Congress.

In applications for the extension of patents and interference cases, a wide range of inquiry into matters of fact is often essential to the ends of justice. The existing laws furnish no means for compelling the attendance of witnesses, nor for obliging them to testify upon such issues. The interests bound up with these investigations are frequently of the greatest magnitude, and, as a consequence, refractory or mercenary men, availing themselves of this omission in the law, have refused to appear or give their depositions, except upon the payment of the most exorbitant sums by the parties claiming their testimony. Cases of this character, while working the most cruel hardship to individuals, have tended to bring the administration of the government into discredit, if not into contempt. No reason is perceived why the processof subpœna, freely allowed to all litigating their interests in the courts of the country, shall be withheld from the parties to these important and complicated controversies.

Whatever might be the capabilities of the Commissioner for physical and mental labor, it would be impossible for him to discharge the administrative duties of his office and hear in person all the appeals brought before him from the decisions of the Examiners. The usage has hence grown up of referring the investigation of most of these appeals to a board constituted for the occasion, consisting of two or more Examiners, who make their report to the Commissioner. As these boards lack permanence, and from necessity, indeed, have been constantly changing, without a critical examination of each report by the Commissioner—which is not practicable—uniformity in action and in the assertion of principle cannot be maintained. To prevent in future that conflict which has been so often deplored in the past, it has been recommended that there shall be appointed a permanent board of three Examiners-in-Chief, who shall be charged with the duty of hearing and determining upon all appeals from the judgment of the primary Examiners. Such a tribunal would, no doubt, attain the end sought, and the members of it, should their appellate duties not fully occupy their time, could by the Commissioner be assigned labor in the classes requiring such assistance with much advantage to the public service.

In consequence of requiring models in applications for designs—a class of cases in which, for purposes of illustration, they are rarely needed—and in consequence of the retention by the Office of the models in all rejected applications, the accumulation has been rapid, and threatens to prove a serious public inconvenience. A large number of these models, which occupy so much space in the building, are admitted to be valueless, and were they removed, and the drawings and specifications alone retained, no prejudice to any interest, public or private, could ensue. Should Congress think proper to invest the Commissioner with a discretionary authority over them, its judicious exercise would accomplish results much to be desired.

It will be observed that of the $211,582 09 set forth as the aggregate expenditures of the office for the year 1857, $38,019 98 consisted of fees returned to applicants, on applications withdrawn, after examination and rejection. The necessity of a change in this feature of the existing law has been heretofore expressed, and is still felt with increasing force. Did the patent constitute the consideration for which the fee of thirty dollars is paid, it would be but reasonable that this sum, or a part of it, should be returned upon the abandonment of the claim. Such, however, is not the case. The consideration of the patent is the surrender of the invention to the public at the expiration of the fourteen years for which the monopoly is granted. The thirty dollars forms the compensation—and is no more than a just one—for the labor bestowed by the office in the preparation and examination of the application. When this has been performed, it is neither just nor expedient that the well-earned compensation for it should, in whole or in part, be withheld. A tariff of fees, which, while dividing the services required, provides that they shall be paid for, step by step, as they progress, has been proposed, and, it is hoped, will be favorably considered by Congress. This would be alike agreeable to the inventor and to the office,

protecting, as it would, the former from the oppression of paying for any services not in fact rendered, and the latter from the injustice of performing any labor for which it is not remunerated.

It should be mentioned that during the year just closed, applications have been filed for letters patent for several inventions, alleged to be valuable, and to have been made by slaves of the Southern States. As these persons could not take the oath required by the statute, and were legally incompetent, alike to receive a patent and to transfer their interest to others, the applications were necessarily rejected. The matter is now presented to the consideration of Congress, that, in its wisdom, it may decide whether some modification of the existing law should not be made, in order to meet this emergency, which has arisen, I believe, for the first time in the history of inventions in our country.

The defects developed by the practical operation of the laws intended to secure the rights of inventors, suggest the propriety of their careful revision. At the expiration of his patent, the inventor is bound to surrender to the public his invention—the fruit, it may be, of many years of anxious toil—and from this undertaking there is no possibility of escape. As an equivalent for this surrender, the government stands pledged to insure to him the full and peaceful fruition of his monopoly during its continuance, and this pledge constitutes one of the most solemn obligations of law and of honor. The compact thus entered into, distinct in its import, and reciprocally binding in its stipulations, is based upon the highest considerations recognized by law, and ought to be executed by the government with that scrupulous fidelity which should ever distinguish the strong when dealing with the weak. While, however, this species of property yields to none other in its national importance, and surpasses all others in the amount which it pays for the legal safeguards thrown around it, it is notorious that it enjoys but a precarious and incomplete protection. The more prominent of the causes conducing to this result are, the helplessness of inventors as a class; the peculiarly exposed character of their interests to be defended; the universal impatience of legal restraints as manifested in that lawlessness which so sadly mars the body of the times in which we live; and, lastly, the unskillful adjustment of subsisting instrumentalities to the performance of those duties of guardianship which the government has assumed upon itself. If the law relaxes the vigilance of its watch over the homestead of the citizen, he can take his stand at his own threshold, and with his own right arm beat back those who would invade it; but the rights of the inventor are co-extensive with the limits of the republic, and may be assailed and despoiled at a thousand points in the same moment of time. The eyes of Argus would not suffice to discover, nor the arms of Briareus suffice to resist, the assaults of so omnipresent a foe as it is his lot to encounter. If, then, the faith which the government has plighted with him fails, he is utterly without shelter. This is no sketch of the imagination. Again and again have inventors, impoverished in fortune and broken in spirit, come to this office, seeking the extension of their patents, and demonstrating by testimony that the fourteen years which should have been devoted to reaping the harvest of their labors were worse than wasted in harassing and ruinously-expensive litigation in defence of their patented privileges. The insolence and unscrupulousness of capital, subsidizing and leading on its mercenary minions in the work of pirating some valuable invention held by powerless hands, can scarcely be conceived of by those not familiar with the records of such cases as I have referred to. Inventors, however gifted in other respects, are known to be confiding and thriftless, and being generally without wealth, and always without knowledge of the chicaneries of the law, they too often prove but children in those rude conflicts which they are called on to endure with the stalwart fraud and cunning of the world. It would certainly be practicable to affix a limit to this oppressive litigation—at least to that feature of it which calls in question the validity of the patent—while the sense of public justice would not be shocked by inflicting something more than a verdict of damages on wanton offenders of this class. It is admitted that the subject is embarrassed with difficulties, but it is believed they are not insuperable. It is a principle of criminal jurisprudence that the penalty shall be proportioned in its severity to the temptations and facilities which exist for the commission of the crime. The principle is a sound one, and would justify legislation of unusual rigor in behalf of the down-trodden interests of inventors.

The existing laws authorize the granting of patents only to original inventors, their representatives and assignees. While the wisdom of the general principle thus asserted is undeniable, still certain facts connected with the condition of the arts and sciences in Europe would justify the inquiry whether, if compatible with the constitution, a solitary exception to the rule might not be advantageously allowed? It is well-known that for a long period of time manufacturing processes of great value have existed beyond the Atlantic, but which have neither been patented, nor described in any printed publication, nor introduced into public use. They have been, and are still employed within the walls of well-guarded manufactories, whose operatives, in entering the service, assume upon themselves obligations of secrecy. Thus, from generation to generation, a knowledge of these useful arts is clandestinely transmitted, and the world is oppressed by the burden of perpetual monopolies. The opinion is entertained that, if our laws could be so modified as to extend the shelter of a patent to these arts and inventions, by whomsoever revealed and introduced, many of them would find their way into the United States, and perhaps among the number the most important of all—the hitherto-concealed process for the manufacture of Russia sheet iron. That their introduction would be a national service, for which it would be competent to make a national remuneration, will hardly be controverted. Whether the constitutional scruples which exist can be so far overcome as to give to this remuneration the ordinary, and certainly the most effective form—that of Letters Patent—is a question which the magnitude of the interests involved renders worthy of the serious consideration of Congress.

While the fee paid for a patent by an American ciziten is but thirty dollars, the sum of five hundred dollars is exacted from a British subject, and three hundred from the citizens and subjects of other foreign governments. This harsh and seemingly unwise discrimination has formed the subject of earnest remonstrance on the part of my predecessors; but, weighty as are the objections which have been urged against its continuance, they have failed to attract the favorable notice of Congress. If the existing law can be regarded as having been adopted in a spirit of retaliation, its framers totally misconceived the European policy to which it was intended to respond. Careful inquiry enables me to state that, with the exception of Prussia, ours is the only nation known to distinguish, in granting patents, between the native-born and foreign inventor. It is true that the English, French, and other transatlantic governments require the payment of the patent fees apparently enormous and oppressive as compared with those paid here by American citizens, but, exorbitant as these fees may seem, they are demanded alike of all—natives and foreigners. With those nations the patent laws are measures of revenue, and as the administration of their peculiar political institutions involves the outlay of vast treasures, their revenue systems must be upon a correspondingly gigantic scale. With such governments such measures may perhaps plead an absolute financial necessity in their justification, and they certainly carry with them not the slightest approach to that breach of national comity which our legislation appears so strangely intended to rebuke. But upon what principle can it be maintained that the government of the United States, boasting of the simplicity and cheapness of its administration, and of its entire disenthralment from the political burdens of the Old World, shall imitate this solitary feature of transatlantic taxation? It may occur to those who do not look beyond the surface of this provision that the exaction, being made upon the foreigner, is therefore a national gain; but this is manifestly a delusion. It is incontestably true, that though paid by the foreigner in the first instance, on the issuing of his patent, he is ultimately reimbursed from the purse of the native consumer. Besides, of all taxes, it is the most odious, being a tax on knowledge, and upon the highest forms and noblest aims of human philanthropy. If other goverments are so insensible to the dictates of an enlarged public policy, and so wanting in sympathy with the governed, as to prefer, or so unfortunate as to feel constrained to resort to imposts, thus embarrassing the inventive genius of the age, shall we so far violate the convictions inseparable from our political faith and nature as to follow in their footsteps? The people of the United States have a deep interest in all useful inventions, wherever and by whomsoever made, and their passage from land to land should be as free as the winds and sunshine of Heaven.

Near half a century ago, the government of the United States inaugurated the principle of reciprocity in the commercial intercourse of nations. It invited the concurrence of all other governments, by offering to place their citizens and subjects on the same footing with the citizens of this country, provided like advantages were by them extended in return. With a single exception, this principle is now engrafted upon every treaty regulating our commerce with Europe, and in introducing a new and brilliant epoch in our history it has laid the axe to the root of that jealousy of strangers so prevalent among the benighted Asiatics, and which, wherever found, is recognized as a lingering badge of barbarism. It is asked that this doctrine, so just in itself, and of which we are so justly proud, shall be embodied in our patent laws. Every European government, with the single exception stated, has placed American citizens on a footing of perfect equality with its own subjects, so far as its system of patent laws is concerned. In the presence of such a fact appealing to us, to uphold longer this obnoxious discrimination would be to insist that the strictly local and domestic legislation of other nations shall be adjusted to meet our peculiar views, or, what is yet more unreasonable, that the governments of those nations shall accord to our citizens privileges which they deny to their own. While recognizing it as our duty to be courteous and liberal even upon the arena of trade, where human selfishness is most prone to prey upon the stranger, can we, without the grossest inconsistency, refuse to be so on that broader and more elevated theater of action, whose themes affect the advancement and happiness of the race, and where at every moment we are forced to acknowledge that the gain of other nations is our gain, and their loss is necessarily ours also?

Regarded from the lowest point of view—its bearing upon the finances of this office—the feature of the act of 1836, under discussion, has proved a failure. Excluding, as it does, multitudes of inventions which would otherwise be introduced, no doubt is entertained but that it yields a smaller amount of revenue than would the more moderate schedule of fees proposed in its stead.

The colonial government of Canada, treating, as is supposed the act of 4th July, 1836, as aggressive in its spirit, responded by absolutely excluding American citizens from the benefits of its patent laws. In consequence, that vast country, affording one of the richest harvests of the world for the inventive genius of our fellow-citizens, remains closed against them. The people of Canada are scions of the same stock from which sprang the founders of our republic. They speak the same language, worship before the same altars, have the same forms of social and domestic life, and draw the inspirations alike of their literature and of their laws from the same high sources with ourselves. Along the borders of eight of the States of our confederacy, with but narrow intervening lakes and rivers, their territory extends—a colony, it is true, in its political aspects, but an empire in the greatness of the future which is dawning upon it. When we examine yet more closely the character and condition of that country, and realize how gigantic are the public works which pervade it, as so many pulsating arteries of trade and of travel; how exhaustless are its agricultural and mineral resources and the elements of its manufacturing power; and how rapidly, with every wave of European immigration that breaks on our shores, its population is increasing, it is difficult to resist the conviction that we have everything to gain and nothing to lose by cultivating with these, our nearest neighbors, the most cordial and intimate relations. In 1853, the imports into Canada from the United States amounted to $11,782,145, and the imports into the United States from Canada to $8,926,360. Under the benign influences of the reciprocity treaty, which went into operation on the 11th September, 1854, the commerce between the two countries has rapidly increased, so that, in 1856, the imports into Canada from the United States swelled to $22,704,508, and the imports into the United States from Canada to $17,879,752. A more complete vindication of this act of enlightened statesmanship than such a result presents could not be desired by its most earnest advocates. The observance of a lofty and generous policy, in our intercourse with other nations, must ever bear such fruit as this. There is every reason to believe that no disposition is felt on the part of the people or of the political authorities of Canada to continue longer the unpleasant and embarrassing relations with the United States, to which their respective systems of patent laws have given rise. The bare introduction of a bill into the last Congress proposing a repeal of the provision of the act of 1836, under examination, was at once followed by a corresponding movement on the part of the Canadian government, having for its object a removal of the existing restrictions upon American inventors. If this movement failed of its consummation, I am well assured it was only because the bill referred to failed to become a law. The highest considerations of public interest seem to require that Congress, regardless of mere national punctilio, shall frankly use its utmost endeavors to open to American inventors this attractive and remunerative field, from which, by an unhappy course of legislation, they have been so long excluded. Whether the Canadian estimate of the act of 1836 be just or not, it is certain that from its foundation the government of the United States has been unceasing in its efforts to liberalize and elevate the intercourse of nations, and that, in view of its antecedents, it can well afford to take the initiative, and offer an example of liberality to the world, as it is certainly beneath its dignity and mission to follow an example of an opposite character, by whatever government or people it may be set.

The Patent Office, silent and unobtrusive in its course, connecting itself with none of the agitations of the day, and demanding nothing from the public treasury, asks only the assent of the national legislature to such an arrangement of its instrumentalities as shall secure the highest possible efficiency to its action. Beyond its mission of beneficence to all, it has no ambition to gratify, no triumph to achieve. The well-springs of its life are fed by contributions from the benefactors of our race, and it is in their name that this appeal, so often made, and so long unheeded, is now respectfully, but most earnestly, renewed.

J. HOLT.

Hon. JOHN C. BRECKINRIDGE,
Vice President of the United States.

The Rind of Fruit Indigestible.

This applies to all fruit, without exception, and includes also the pellicle or skin of kernels and nuts of all kinds. The edible part of fruit is particularly delicate, and liable to rapid decomposition if exposed to the atmosphere; it is, therefore, a provision of nature to place a strong and impervious coating over it, as a protection against accident, and to prevent insect enemies from destroying the seed within. The skin of all the plum tribe is wonderfully strong, compared with its substance, and resists the action of water and many solvents in a remarkable manner. If not thoroughly masticated before taken into the stomach, the rind of plums is rarely, if ever, dissolved by the gastric juice. In some cases, pieces of it adhere to the coats of the stomach, the same as wet paper clings to anything, causing sickness and other inconvenience. Dried raisins and currants are particularly included in these remarks, showing the best reasons for placing the fruit upon the chopping-board with the suet in making a pudding of them; for if a dried currant passes into the stomach whole, it is never digested at all. When horses eat oats or beans that have not been through a crushing-mill, much of this food is swallowed whole, and in this state, being perfectly indigestible, the husk or pellicle resisting the power of the stomach, there is so much loss to nutrition. Birds, being destitute of teeth, are provided with the apparatus for grinding their seed, namely, the gizzard, through which the seed passes, and is crushed prior to digestion. The peelings of apples and pears should always be cast away. Oranges we need not mention, as this is always done. Orleans, greengages, damsons, and all plums, should be carefully skinned if eaten raw, and if put into tarts, they should be crushed before cooking. Nuts are as indigestible as we could desire, if the brown skin be not removed or blanched, as almonds are generally treated. SEPTIMUS PIESSE.

Salt from the Gulf Water.

The Academy of Science in New Orleans has received a paper purporting to demonstrate the fact that the waters of the Gulf, on the borders of south-western Louisiana, and thence to Texas, are the saltest that have been submitted to scientific tests, and that, by the process of evaporation in tanks, salt of a superior quality, equal to that of Turk's Island, may be obtained.

Turkish Progress.

The march of intellect is evidently directed towards the East. A small printing-office was sent from Paris to Constantinople a short time ago. This press is to be worked entirely by the ladies belonging to the harem of one of the great Pashas residing on the Bosphorus. The books intended to be printed are chiefly works of amusement, translated from the French and English.—*London Engineer.*

A chemical analysis of various liquors sold at a low rum shop on one of the wharves of San Francisco, showed that there was prussic acid and morphine in the brandy, sulphuric acid in the gin, and strychnine and kreosote in the whiskey.