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COMMENTS ON THE NEW PATENT LAW.

It is well known to the readers of the SCIENTIFIC AMERICAN, that for years past we have strenuously advocated a reformation in the Patent Laws. We have never contended for a radical, sweeping change, but for some simple modifications, such as the progress of events had rendered necessary. We have always maintained that the United States patent system was the most perfect one extant (when well administered) to secure the ends in view, viz., to promote the progress o the useful arts. One of the most objectionable features of our patent system hitherto, has been the odious discrimination against foreign inventors; so odious, indeed, that foreigners of every other nationality were regarded with more favor than British subjects. Thus an English inventor was compelled to pay $500 on presenting an application, while a Frenchman, or any other foreign inventor, was obliged to pay but $300. This feature of our generally excellent patent system was adopted in 1836, not, however, as some suppose, as a rap at Great Britain, but simply because that government charged a $500 patent fee, while France required in the aggregate about $300, neither government, however, discriminating against foreigners. It is said that the continual dropping of water will wear a stone, so continual opposition to unwise and unjust laws will ultimately cause their repeal. We have for years denounced this partial feature of our patent system, and are now able to rejoice over the fact that it is swept forever from the statute book. It will be seen by reference to the new Patent Law, published on another page, *that inventors of all nations are now placed on the same footing in this respect, "except those of countries which discriminate against the inhabitants of the United States."* The only inventors who will be excluded under this provision are our Canadian neighbors, who refuse, in this enlightened day, to allow patents, except to resident subjects, who must be the inventors also of the object for which the patent is sought. We hope the Canadian Parliament will no longer hold on to a system so unwise and ungenerous.

We do not propose to discuss every provision of the new law; it is before our readers in simple legal phraseology, and will be readily understood in all its essential details. We will, however, refer to a few additional points, such as most deeply concern inventors at the present time:—

The schedule of fees is entirely changed, and the awkward system of allowing a withdrawal of a portion of the patent fee in cases of rejection is abolished. This, however, does not apply to cases rejected before the passage of this Act. Inventors are now required to pay the small fee of $15, instead of $30, as heretofore, and if, on examination, Letters Patent are allowed, $20 more will be required before the patent is delivered. This is an increase of $5 on all patents now issued, *but it is no more than just, since the law allows the patent to exist seventeen, instead of fourteen years.* We think inventors generally will be satisfied with this change. The fee on filing a caveat is reduced to $10, but this sum will not apply toward the patent fee when an application for a patent is completed. This change was rendered necessary in view of the alteration made in the rate of fees, but it would have been still more satisfactory if, under these circumstances, the caveat fee had been reduced to $5.

All patents granted, and now in force, previous to the passage of this Act, can be extended for seven years from date of expiration, upon the same conditions as have hitherto existed, except in the amount of fees, which are clearly stated in the Bill. An attempt was made by the small lobbyists, and it was palmed off upon the Conference Committee of the House, to deprive patentees under the old system of the right of extension, seeming to forget that this right was solemnly guaranteed to them when they secured their patents. All patents (except for designs) issued under the new Bill, will exist for seventeen years, but cannot be renewed. This is, in some respects, a wise provision, as it will stop a great deal of filibustering and scheming, not only at the Patent Office, but also in Congress, as the people will expect that august body to obey its own laws. We need not trouble ourselves, however, about the matter, as the evils thus to be remedied will not cease till the 4th of March, 1878, and we may all be dead before that time.

One of the most important changes in the laws is that which relates to designs. It opens a very wide field not only for the protection, but also for the display of the esthetic talent of our people, and will, no doubt, attract much attention. We consider it a valuable change, and one that will stimulate the taste for the fine arts and afford a constantly-widening field for the encouragement of artists and inventors.

We cannot close our brief comments on this law without an expression of gratitude on behalf of inventors of every liberal country on earth to Hon. William Bigler, ex-Senator from Pennsylvania, and Hon. Wm. E. Niblack, ex-member of the House of Representatives from Indiana, and now Chief-Justice of Nebraska, for their untiring devotion to this work. But for the zeal of these gentlemen, the Bill would have slept on in the dusty pigeon-holes of the committee room.

COAL AND WOOD-BURNING LOCOMOTIVES.

By a late report of John O. Sterns, Esq., Superintendent of the New Jersey Central Railroad, we learn that very fair tests have been made with wood and coal-burning engines on that road, all of which have terminated favorably for coal, as it regards economy. There are thirty-eight locomotives, six of which have been altered from wood to bituminous coal-burners; twenty-four burn wood, and eight anthracite coal.

During the last two years and nine months, the wood-burning engines have run 1,353,909 miles; the anthracite coal engines 165,585, and the bituminous engines 112,757 miles. Regarding the performance of these three classes of engines, Mr. Sterns says:—"The three comparatively perfect anthracite engines make a saving in fuel of seven cents per mile over three equally good wood engines, and the difference in cost for repairs cannot exceed three cents per mile, leaving a net saving of four cents per mile run by substituting anthracite coal for wood." * * "From our past experience, I am satisfied there is a saving by using bituminous coal instead of wood, of about three cents per mile, and that it is expedient to alter several of our wood-burning freight engines to burn bituminous coal, especially as the change is easily and cheaply made."

The wood used by this company is oak, rated at $5 per cord; the bituminous coal is the same cost per tun, while the anthracite is set down at $3 per tun. The wood-burning engines run at the rate of 28.3 miles per cord; three good anthracite coal engines average 31 miles to a tun of coal. It will always be a source of satisfaction to us that the SCIENTIFIC AMERICAN early directed the attention of our railroad companies to the use of coal as an economical substitute for wood as fuel. Had our advice been taken ten years ago by several companies, millions of dollars would have been saved to them. Mr. Sterns states that if all the freight trains on the New Jersey Central Railroad had been drawn by good anthracite coal engines, $20,000 would have been saved to the company last year alone. Where wood is very cheap, as in Canada and on some of the Southern railroads, of course it is preferable to use it; but wherever it can be shown that coal is cheaper than wood on any railroad, those who have the management of affairs are culpable if they run wood-burning engines.

THE NEW PATENT LAW FOR DESIGNS, TRADE MARKS, PATTERNS, &c.

The recently-enacted changes in the Patent Law will affect the interests of many classes of our citizens in many important respects.

Artists may, under the new law, obtain *patents for their paintings*, and thus put an end to that extensive system of piracy upon the efforts of home genius which now prevails. Scarcely a good picture has heretofore been produced without being immediately duplicated by second rate copyists, and the original artist thus measurably deprived of the fruits of his own work. Pictures, prints, and artistic designs of every possible description, may now be patented, and no person can use or duplicate the same without the consent of the originator. Architects, draughtsmen, engineers, photographers and designers may patent their plans, and every new specimen of their work; new designs for bank notes, certificates of stocks, bonds, and all combinations of an artistic character, may be patented.

The new law also provides that any *new form* of any article of manufacture may be patented. Thus, the invention of a new form of basket, bell, chair, table, bedstead, bookcase, piano, cup, pitcher, dish, or any other new article of household furniture, may be patented; makers of such articles will therefore be encouraged to exercise ingenuity in producing improved forms, so as to enjoy a monopoly in the sale thereof. All works of arts, such as statues, busts, works in *alto-relievo*, designs for stove plates, clock-cases, new forms of picture frames, all new forms of articles in glass or other material, new styles of gas fixtures, buttons, jewelry, fancy goods, &c., &c., may be patented.

Merchants may also obtain patents upon their *trade marks*, and even upon *the labels* which they affix to their goods. Druggists will thus receive important advantages. Another highly important provision is that new patterns of printed and woven goods, oil cloths and carpets, paperhangings and window shades; in fact, ornamental designs on any fabric or material may be patented for from 3½ to 14 years, as the applicant may elect when applying for the patent.

Bookbinders may secure new designs for covers, and printers new designs for type. Every new style of article, tool or pattern, used or produced in any trade or profession may now become the subject of a patent.

Patents may also be obtained for all kinds of ornaments and decorations in plaster for ceilings and façades Also new moldings in wood, plaster or other material, either for interior or exterior decorations. New forms of fences, posts, railings, stairs and banisters may also be secured.

Every new form or description of planished and plated ware, tea sets, waiters, lamps, cans, boxes and envelops for goods may be secured. Also new designs for hardware, tin-ware or any other metal, musical instruments, toys, canes, umbrellas and like articles of innumerable variety may be patented under the new design act.

The new law was put in force on the 4th of March, and we have the most extensive arrangements made for conducting business under it.

Patents can be taken out, as above, under the new patent act for 3½, 7 or 14 years, as the applicant desires, and the following is the government tariff:—

For a patent of 3½ years..... $10
For a patent of 7 years..... $15
For a patent of 14 years..... $30

The documents required are petition, affidavit, specification and drawings; no model being required.

Parties wishing to take out patents of this kind may have all the business properly done, on the most moderate terms, at the office of this paper. Persons desiring further information may address MUNN & Co., No. 37 Park-row, New York.

PATENT NURSING.—During the last stages of Congress the Patent Bill was referred to two Committees of Conference to settle some disputable points, and in the nursing which it received from the various gentlemen composing these Committees, some slight crudities crept in, but nothing that renders the law inoperative in any of its sections. Of the distinguished nurses who sat up with the bill just previous to its passage, we may mention Senators Douglas, Cameron and Rice, and Representatives Niblack, Hoard and Cox.