

Scientific American

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Lectures on the Patent Laws.

The lecture of George Gifford, Esq., Attorney at Law, upon the Patent Laws, now published in pamphlet form, covers an extensive area. After noticing the Patent Laws of foreign nations, the practice of some of them in granting patents for the introduction of improvements and discoveries, is condemned as "an inducement to those with no merit of invention, to steal the rights of others." There is some truth in this, but there are cases, wherein it is both wisdom and policy in a government to grant patents for the introduction of inventions. The late Commissioner of Patents, Hon. Edmund Burke, wisely mentioned a case of this kind in his last Report, to protect a person who had found out the mode of making that article so much desired and so long kept secret, "Russia Sheet Iron." A just compliment is paid by Mr. Gifford to the merits of inventors and the good they have done to the world. He looks upon the United States of America, as the future "grand laboratory of the world, commanding the entire front of the dominions of Science." We have the same hopes and the same faith, and the Smithsonian Institute is an evidence of what a great man, now dead, thought upon the same subject. Congress is justly denounced for not giving more attention to inventors and patent laws, and the laws of 1836 "bear evidence of hasty legislation," and the way in which the Patent Office is managed, meets with a scathing rebuke, because of the length of time before an application for a patent is examined. The patent laws do not confer a benefit upon an inventor, nor does a patent, but it is a bargain by the inventor to make his invention public, give it to the country, if he is protected in its full enjoyment for fourteen years. Nothing is more true than this, yet a patent is often given to an inventor, as it were a grant of charity. Mr. Gifford proposes an entire reformation of the Patent Office, and lays down his plan. We differ from him on almost every point, and our conclusions are entirely made up from practical data. We may notice this at some other time, and our views will, we have no doubt, meet with acceptance by every person interested. An increase of fees for re-issues is advocated, and an amount equal to the original fee, for additional improvements—\$30 instead of \$15. The system of re-issues by the law of 1836, from its looseness, is called "oppressive and tending to legalized robbery," and we are startled with something like a revelation of which we were entirely ignorant, and regarding which we consider it to be the duty of the Patent Office to set the public right on the matter, if it is not so, and if it is true, the sooner the Patent Office shuts up one door, all the better for the public. Mr. Gifford states that under the construction of the law of re-issues, "the practice of the Patent Office in granting re-issues has been, not to limit the extent of the claim of the new patent to the invention appearing in the original patent, or to be inferred from the specification annexed thereto, but to enlarge it on ex parte evidence to any additional extent.

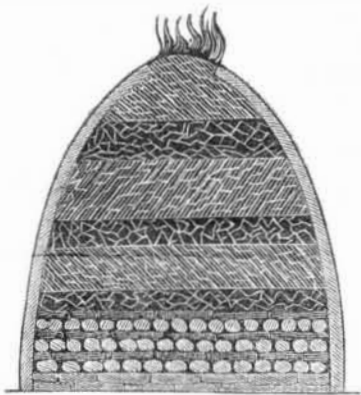
Superadd to this practice, the fact that the new patent so issued, is to take effect, as to causes of action subsequently accruing, from the date of the original patent, and is to be deemed evidence of the existence of the invention as far back as the date of such original, and you have a combination of things, the joint operation of which is truly alarming, and resulting in the most glaring injustice and the most intolerable outrage upon the rights of men and community, ever passively endured."

By an *ex parte* affidavit, he states, "any vile vagabond may gather up some old patent, useless skeleton, and appropriate to himself all that others have produced for the last fourteen years, and also to extend the bounds of his old patent over all the new territory discovered, after the date of his original patent, and to

swallow up what others have invented, put into use, and patented, long before he dreamed of the existence of such things." By this system of re-issues, he asserts that old patents for useless inventions are set as traps to ensnare meritorious inventors and harass the public, and are resuscitated by "fraud and corruption, and sprung upon the community to take from citizens their prosperity and rights." It is recommended that no claim be granted in a re-issue, except such as clearly appears in some form in the original patent, and that no re-issue be allowed after the patent is one year old. The above is strong language, and knocks hard at the door of public opinion. We understand the practice of the Patent Office to be, to grant no claim on a re-issue, except for something exhibited on the model or original specification. If such is not the case—if the above statements of Mr. Gifford are correct, the evil is a foul blot upon our Patent Office practice. But we want facts—cases—to base any arguments we may use to assist in the reform demanded in our Patent Laws. Who will furnish us with such arguments?

Lime Burning with Mineral Coal.

We have received from a valued correspondent, of Lebanon, Pa., giving the following account of burning limestone in the fields with mineral coal, which must be of interest to our agricultural readers. This mode is pursued by farmers advantageously in some parts of Pennsylvania—the lime-stone being burned in heaps in the field, where it is quarried, or where the lime is to be used; 30 bushels of coal to 100 of limestone, is used, the two being interstratified for burning.



There are flues dug in the ground, and the above cut is a transverse section, showing the arrangement. These heaps or piles may be made of any desired size: their base is usually 10 to 15 feet wide, and are carried up in somewhat of a gothic arch shape, to a point or ridge, so as to make the height about the same as the base. The quantity of coal used is in the proportion of about one ton of coal to 100 bushels of limestone—if the coal is fine and slaty, a somewhat larger proportion is used. The length of the piles are made to correspond with the quantity of lime desired at one time, say from 20 to 100 feet in length. The ground flues which are about 12 or 18 inches square, are extended about 3 feet out on each side to admit the wood which is burned in them to start the fire and ignite the coal in the heap, which usually takes 4 to 6 hours, and about a half a cord dry wood to a 1000 bushels of coal. After the pile is constructed it is plastered over to within about 18 inches of the top on each side, with wet plaster mortar made of clay; this covering is from 3 to 5 inches thick. About 1½ feet of the top heap is constructed of small stones or stone chips, and is left uncovered until the fire is fully started, then covered over with dry dirt to keep down a two rapid combustion. The clay coat is put on before firing and is kept plastered over close during the burning. The outside courses of stone are set on edge in an oblique manner, the direction of their inclination being changed each course, which form a zig-zag appearance. The outside courses are laid with care, taking stone of about the same size, but the interior, after the first 2 or 3 courses, is filled up with stone of all sizes, to the extent of 80 pounds, but each coat of coarse stone is filled up and leveled over with small stone of more uniform size—say as large as the first, and then the course of coal is strewn over the smaller stones

before another course is added. The first three courses are of about a uniform size of half a brick and covered with a larger proportion of coal than the courses higher up, the depth or thickness of which is progressively increased to 15 or 18 inches in the body of the piles. As the courses are made thicker, so are stone used of larger size—but the coarse stone are to be leveled up and covered with smaller stone to receive the strata of coal.

The ground flues are covered with stone, which are large enough to reach across and lap 4 to 6 inches on each side of the ditch, or the stone may be projected from either side to meet in the middle of the flue—having sufficient bearing on each side of the flue or ditch to keep them from tilting into the flue when laid. Over these stone, and throughout the whole base of the pile is laid a covering, say 3 or 4 inches thick of dry wood, and on this is about 2 inches in depth of mineral coal spread over, then a course of limestone, say size of half a common brick. Coal and limestone are thus alternated for 2 or 3 courses, then the thickness of each course is gradually increased as we raise in height.

Paine's Hydro Electric Light.

Messrs. Editors:—I perceive by the last number of the "Scientific American," that Mr. Paine has been very much pained by my letter in No. 8, so much, indeed, that he finds himself constrained to resort to a very ingenious method of fighting my arguments, viz., by taking refuge behind a saying which he attributes to Franklin, but in regard to its application he pleads ignorance, merely supposing that the remark of the "Lightning Botler" must have been called forth by such an attack as I made upon Mr. Paine. I made no personal attack upon Mr. Paine: I used the most respectful language, and if he compares my letter with his own, he will (as every person must) admit that my letter was general—his personal. If I would abuse an inventor "for his invention," I would abuse myself, as I happen to belong to that fortunate, and yet unfortunate class. Mr. Paine avoids meeting my deductions from well established facts in science. His rigmorole about the four elements, and about the South Sea philosopher with his calabash, would have suited a school boy better than a man, to adduce as argument against my objections. I stated in my former letter, and I will state it again, that hydrogen gas during combustion does not produce a white but a bluish light, and it requires carbon mixed with it to produce a good white light. Now Mr. Paine has given publicity to the doctrine that he decomposes water by magnetism, and by burning the hydrogen of the water he produces a cheaper and better light than any that ever has been produced before. The South Sea philosophers who doubt this are Davy, Lavoisier, Liebig, Farrady, Rose, Ure, and men whose names stand far above Mr. Paine's contumely.

Since Mr. Paine sees fit to keep his alleged discovery mum, will he be so good as to state candidly the chemical principle by which the white light is produced by the burning of hydrogen. No man will get honor for merely saying I can do and have done such and such a thing. Had Franklin brought his key to Philadelphia and exhibited it charged with electricity, saying that he "had drawn light,ning from the clouds," without stating the manner of doing it, he never would have put to silence any doubter, nor would he ever have received the glorious title which Mr. Paine justly gives him.

I have no wish to enter into any controversy, nor impugn any man's motives, I only want more light; and as Mr. Paine has so often come before the public, heralding with the trumpet of the press his grand discovery, and I, poor mortal, not getting any more light from him at all, I thought that as an humble member of the public—an American public, which never likes to go things blind, that my letter would have been the means of at least getting some satisfaction, not private, but public, but I have been disappointed.

It often happens, and I have proved it by myself, that inventors honestly deceive themselves. In answer to Mr. Paine's objection about the Protection of the Patent Law, I can

give the names of many who have become rich by their patents—through law and opposition, and I can give the name of one, at least, who would have been rich, had he patented his invention, instead of keeping it secret, for it was patented by another, who became rich by it and the first inventor was prevented from using his own discovery.

There have been so many electric lights brought from time to time before the public, that Mr. Paine should have some feeling with the public, who have been so often deceived.

Mr. Paine adduces one reason, and one unkind objection, for not answering my remarks candidly. The reason is, that if I do not know that water "is a simple substance, and oxygen water held in solution by positive electricity, and hydrogen by negative," and the objection is, that if I do, "my remarks are insulting and abusive." With great respect I will state that I am ignorant of water being a simple substance, and as for the rest which follows, it is puzzling to me. My remarks, therefore, were not abusive, far be it for me to abuse a gentleman of such profound chemical knowledge.

I would state, however, that I am perfectly capable of proving that water is not a simple substance, and that the two gases are united and held together by a very different law from that which Mr. Paine lays down. If he chooses to discuss this point I will undertake to prove by unquestionable facts, and produce the authority of the most able living chemists, and the most able living Electrical Chemist, that hydrogen alone does not produce a good white light, that it requires a mixture of carbon in some shape; and that water is not a simple substance. I have indisputable established facts "to base my review upon,"—I want Mr. Paine's new facts to controvert what every good chemist knows to be true.

Mr. Paine finds fault with my name, "Gior," and insinuates that I have an interest in some stock or gas company. I will state that I have manufactured gas for public combustion, more than ten years ago, but I have not a cent's worth of interest in any stock or company whatever. Nothing would give me greater pleasure than to see our city supplied with gas so cheap, that all our present companies would become extinct—not that I rejoice at the downfall of any company of men, not that I love them less, but that I love my whole countrymen more, and I would to God that every working man could now use gas as a cheap substitute for oil, camphine and candles. If Mr. Paine does this for our working people, he will ever receive my heart-felt thanks and profound respect. It would gladden my heart to see Mr. Paine come to this city and offer (as by his own profession he no doubt can) to supply the public at one half the cost of our gas at present, I can confidently state that his offer, if properly endorsed, would at the present moment meet with prompt attention.

I am perfectly willing to be dubbed with the title of Carburetted Hydrogen. It is such a beautiful and useful gas, that it is no shame to wear it for a moment, but I preferred Gior, as the most appropriate, and had he been as classical as he is captious, he would not have run against his own lance. Until a better and cheaper gas is produced, I therefore will, out of respect to Mr. Paine, subscribe myself,

Yours truly,
"CARBURETTED HYDROGEN."
New York, Dec. 2nd, 1849.

[We will allow the scientific points only, at issue, to be discussed in future papers, if brief, between Mr. Paine and the author of the above.

Cracking of the Glass of a Clock-face.

We have received the glass of a clock-face from S. Whitcomb, of Natchez, Miss., with a request, if we can, to explain the reason why it was all chipped upon one of its surfaces.—The surface is covered with blisters, which were found on it one morning after a very cold night. We can only account for it upon one condition, viz., that moisture was collected on the glass, which being congealed by the cold, chipped it.

See a letter from our Washington Correspondent, on the second page.