Scientific American

NEW-YORK, JUNE 12, 1852.

Judiciary System of the United States.

We have now before us a petition which is to be presented, in a short time, to the Senate and House of Representatives, praying for a reform of the United States Judiciary System. The reforms embraced in the petition are, 1st, "the election of Judges by the people for a limited number of years. 2nd, a law prohibiting the issue of a writ of injunction unless the complainant shall first give security to indemnify the defendant for all loss and damage. 3rd, that the defendant may stay or raise the injunction on giving like security. 4th, and that all issues of fact, both in equity and law, shall be tried by jury."

The reasons set forth for such changes in our Judiciary system are of a very peculiar character: the Judges are appointed for life, and it is said they have assumed power over both law and facts, in granting injunctions without trial by jury, and without adequate security to the party enjoined, all of which is contrary to the spirit and true character of our government, is of despotic origin, destructive of business security, and oppressive to citizens. We have expected such action for some time, although we have done nothing to bring the same about by personal effort. We supposed that some striking case would make the injured parties seek redress by legislation; and now the wedge is about to be thrust into the whole United States Judiciary system, as at present constituted and conducted. We cannot say that we advocate the electing of the judges, but we believe that their appointment for a limited number of years, and no re-appointment ever allowed, would be a judicious reform.

The great exciting cause of this action, at present, is the tyrannical disposition which has been displayed in some cases, by some of the judges granting certain injunctions contrary to sound legal authority.

In July, 1850, an able article appeared in the Southern Quarterly Review upon this very subject, namely, the granting of an injunction by Judge Wayne, against a patentee, without allowing a trial by jury. The petition before us has sprung up from decisions made by Judge Kane, of Philadelphia. He has granted injunctions without any trial at common law, when the conflict was between two opposing patentees, and he has judged as to facts and law both. This, according to Curtis (sec. 338—Note), is wrong; it says,—"where there are two conflicting patents, apparently for the same thing, the grounds of undisturbed possession on which injunctions are granted, cannot exist." It is our humble opinion that great good would be done to patentees and others, if our U. S. Judges would send every patent case to a jury, if the defendant desired such a trial. Our Judges are more despotic in their decisions than those of the English Bench. Sir L. Shadwell, Vice Chancellor, said "he did not recollect a case where a defendant had stated his wish to try the question at law that the Court had refused to give him the opportunity. This is very different language from that held by some of our Judges.

A great many patent cases are conflicts between opposing patentees, and the questions involved are those of infringement; now in every case of this kind it should at once be sent to be tried by a jury of competent men, and not left to the decision of the Judge; no injunction should be granted until a trial is had by a jury.

These are our opinions, and we are confident the expenses would be less to all parties, and for a certainty justice would be more sure, and there would be no room for accusing the Judges of partiality and making decisions prejudicial to the rights of any one party for the sake of benefitting another party.

The Reformed Patent Bill.

We have been informed that Senator Norris's Bill, to amend the Patent Laws, is expected to pass both houses and become a law in the course of a few weeks. We hope he has amended the Bill so as to strike out that absurd clause in reference to the products of patented machines. The new English Patent Bill provides for foreign propellers coming into English waters, also for ships using patent machines, they will meet with no obstruction in British waters; this is sensible, but while the people there are becoming liberal in such matters our statesmen seem to be going backward.

The Albatross Propeller- -Pirrson's Condenser.

This class of steamships is becoming more common on our waters, their economic qualities are beginning to be better understood. The city of Philadelphia has enjoyed a good reputation for building propellers; still, we have thought it strange that the only steamships sailing regularly between that city and Europe were built abroad—they are foreign steamers; we allude to "The City of Glasgow" and "The City of Manchester." A very fine screw steamship, named the "Albatross," built in Philadelphia, has come to our waters and become a New York ship. On Wednesday, last week, she made a trip down our Bay, with a number of invited guests, and we were happy to form a part of the company. This vessel is a beautiful craft, and has many new points about her worthy of consideration. The Albatross was designed and constructed under the superintendence of her owner, Ambrose W. Thompson, Esq., of Philadelphia, and she does credit to his inventive qualities. She formerly belonged to the line of steamers running between the cities of Philadelphia and Charleston, but the line has been discontinued for want of business. She has a propeller named "Thompson's parabolic propeller." It is geared to make nearly two revolutions for one stroke of the engine. The screw is of an *expanding* pitch. The speed on the trip was at the rate of about 12 miles per hour. She is fitted with the Patent Condenser, invented by J. P. Pirrson. C. E., of this city, and to this apparatus, for marine steamers we would desire to direct public attention. There is a great loss of fuel and a great wear of boilers, by the use of the salt water, which is employed by all our steamships. When the water in the boilers is saturated to a certain degree, the brine has to be run off; this involves a great loss of heat. In the course of time serious incrustations gather in the inside, and this involves a loss of heat also, as the scale is a non-conductor. The incrustations have to be removed every voyage, and the boilers cleaned out, and this involves another heavy expense. If pure water could be employed at sea, all the heat which escapes with the brine, and all the evils and troubles of incrustations would be saved and remedied. But how can this be done? To carry fresh water for a voyage would require huge tanks; in fact, the vessel could not carry enough to serve for one voyage of a few days. If we consider that all the water employed goes into steam, and this steam, when condensed, is pure water, whether made from salt or fresh water, the reflection arises,—why not condense the steam, and use it over again for boiler feed? To do this, salt water would have to be used for condensing, and it must be applied to the outside of the condenser, to cool the steam by radiation. This is the principle of this *condenser* for sea steamers. The principle is not new; but the manner of making it effective and profitable, as invented by Mr. Pirrson, is; and the saving of fuel, by its use, is over sixteen per cent., of coal. This has been fairly tested, in the Albatross, during the past year, in her passage to and from Charleston. The condenser is very compact, and does not occupy much room, and we cannot but desire that the owners of steamships would examine it with candor. We cannot describe its peculiar difference from that of Hall's, &c.; we have not room to do so, and, beside, every apparatus must be judged by its practical working—the only test of its utility and economy. There can be no doubt but an apparatus of this kind is much to be desired; the only questions to be settled, are those of its economy and working qualities; and upon the testimony of Mr. Thompson, the Albatross has resolved these questions in favor of a saving of sixteen per cent. of fuel and the prevention of all incrustations: the whole economy cannot be less than 25 per cent.; this is a geat gain.

The Crystal Palace.

This famous structure, which has to be removed from Hyde Park, is not destined to be torn down and broken to pieces like a potter's vessel; it is to re-erected and devoted to a noble object. It has been purchased for about three hundred thousand dollars, and is to be removed to an appropriate site, at Sydenham, near London. It is to be placed in the midst of a park of 150 acres, which is to be planted with a specimen of every tree which can be grown in the open air in England. The building is to contain a winter garden of 18 acres, filled with the choicest plants and flowers. There are to be sculptures by the chief living artists, and casts of the most celebrated works of antiquity. Geology and mineralogy will receive their appropriate illustrations; while specimens of the most striking costumes and manufactures of the various nations will be laid out, as at the time of the Great Exhibition. Not the least interesting part of this splendid spectacle will consist of samples of machinery such as those which were seen at work last year in the northern section of the building, when it stood in its full glory in Hyde Park. Had this building been made of brick, as was first proposed, it would have been nothing but a heap of rubbish when taken down; but it can be erected now as well as at first. This is a strong argument in favor of iron buildings. We have been informed that all the stock for the New York Crystal Palace has been subscribed. "Go a-head," gentlemen.

American Rifle Shooting.

Some time ago while commenting on rifle shooting, we stated, as is asserted in Mr. Chapman's work, that a first rate American rifle with a telescope, will throw *all its* shots at 220 yards into a circle of 1½ inches diameter, and at 440 yards into a circle of 8 inches diameter. "No European shooting, we believe, can compare with this."

The London Mechanics' Magazine, of May 15th, says, "yes it can," and quotes the following extract from the letter of an officer serving in the Caffre war:

"I have seen, I suppose 100,000 rounds fired from one firelock, and have seen the effect of Caffre fire to nearly the same amount, and I say that an old flint musket in the hands of a Caffre, who puts in about 6 drachms of powder, will kill a man at 800 yards; a regulation firelock, charged with 4½ drachms ditto, at 550 yards; a common rifle charged with 2½ drachms, with conical ball hollowed out at the base, will kill at 1,200 yards."

This we do not dispute, for our rifles can carry as far, but can any European rifles show such close shooting. In our last number we published the challenge of Mr. Sharp; it is open to the world, and will afford a good opportunity of deciding the merits of many rifles. Send over your Minie rifle, gentlemen.

A Yankee Tanner.

Some time ago we published an article from the London Mechanics' Magazine, giving an account of Mr. Laycock, formerly of Albany, N. Y., having taken out a patent in England, whereupon a cotemporary of last week, sputters out the wonderful piece of news of a *Yankee tanner*, formerly of Albany, but now of Doncaster, England, having taken out a patent, and gives the article as we published it. It happens, however, that he is not a Yankee tanner, nor did he follow the business of tanning in Albany. He is an English dyer by trade, who resided for some time in Albany, was not successful there, got a legacy left him in England, went back and now follows after the tanning business, with some Yankee improvements. How some people do keep posted behind in the news of the day.

Adamantine Candles.

We had supposed that the most beautiful stearine candles were manufactured at the West, but we have a sample of a block of stearine, and some candles before us, manufactured for George H. Folger, of Nantucket, by H. E. Rogers, of South Manchester, Conn., which surpass all the candles we have ever seen. Mr. Folger is a manufacturer of sperm and adamantine candles and his candles sell at higher prices than others of the same kind, 35 cents per pound being received for them. They are white, like snow, very hard, and having tested their burning qualities, we find they are not liable to *run*, but burn clean and free from guttering.

Patent Business.

For a number of years we have been honored with the confidence of a large class of inventors, and have been solicitors for, perhaps, as many patents as any Agency in the world, and we think we may safely say that we have conducted *more* applications at home and abroad than any other concern, during the same period. Commencing May 4th, and ending June 1st, 1852, (4 weeks) 22 patents were issued to inventors, whose papers were prepared at this office. The whole number of patents issued during that period is sixty-three, —thus giving us a fraction over one-third of all the patents issued, and establishing a great preponderance in favor of the "Scientific American Patent Agency." Still, we believe that most, if not all of the respectable Patent Agents, in this and other cities, are doing a large business, and so far as we can judge, the season is prolific with invention.

A New Yellow Dye.

M. Guinon, an eminent dyer of Lyons, France, has succeeded in dying silk light yellow by means of "picric acid." His attention was first directed to the subject by noticing the yellow color which it imparted to the skin. This acid is made by him in the following manner:—Into a good stone-ware vessel, able to contain three times the quantity employed, are put three parts by measure of commercial nitric acid, which is heated to 140° Fah. The vessel is then removed from the fire and 1 part by measure of coal oil is added through an earthenware tube, tapering at its lower end, and dipping into the acid. Each portion of oil, on entering the acid, causes a violent re-action, heat being generated, and carbonic acid and nitric oxide given off; should the liquor threaten to run over, the addition of oil must be suspended, and the whole cooled with a little nitric acid. The oil is then all poured in, and when this is done the greater part is already converted into picric acid, but a portion yet remains as a reddish resinous mass. Three parts more of nitric acid are then added, and the liquid is boiled to a syrup. It must not be suffered to dry, or it will ignite with violence. The syrup thus formed solidifies into a yellow paste when cooling. This is then boiled in water for 20 minutes, and suffered to cool, when the picric acid forms in crystals on cooling, and the residue is nitric acid and some resin. It can be purified like all salts by repeated crystallization. To purify it perfectly it must be mixed with ammonia, and precipitated with hydrochloric acid, but this is not required for dyeing. Silk mordanted with alum and tartar takes a fine straw color by being handled in a weak solution of picric acid. It can be washed severel times, but it does not stand alkalies or acids, but it is a valuable color, as it endures the sun and air; it is well known that tumeric, which is used to color a number of yellows, cannot stand the sun at all—it fades in a few minutes.—Wool, if prepared with alum and tartar, takes a fine citron yellow. It stands washing very well, and also the sun and air. This acid does not give any color to cotton. It is an improvement in the use of nitric acid which has often been used to give a kind of faint yellow to a white silk.

Woolen Manufacturers Awake.

We understand that secret efforts are now being made in Washington to get a special bill passed renewing the patent of John Golding, of Dedham, Massachusetts, for an improved wool condenser, which was granted in 1826, and which has been in public use for twelve years. It is supposed, from the secrecy with which those interested have moved, that many members of Congress have been brought to favorable terms, and that the bill may pass very quietly, and then the woolen manufacturers will have to look out. There can be no doubt but the President will veto the bill if passed, if his attention be called to the subject, as he his an old woolen manufacturer, and would see at once that the bill was for oppressing, not advancing, improvements in the arts, and therefore unconstitutional. It is believed that a number of crafty lawyers are at the bottom of this scheme: but we believe they will be defeated in their reprehensible schemes.